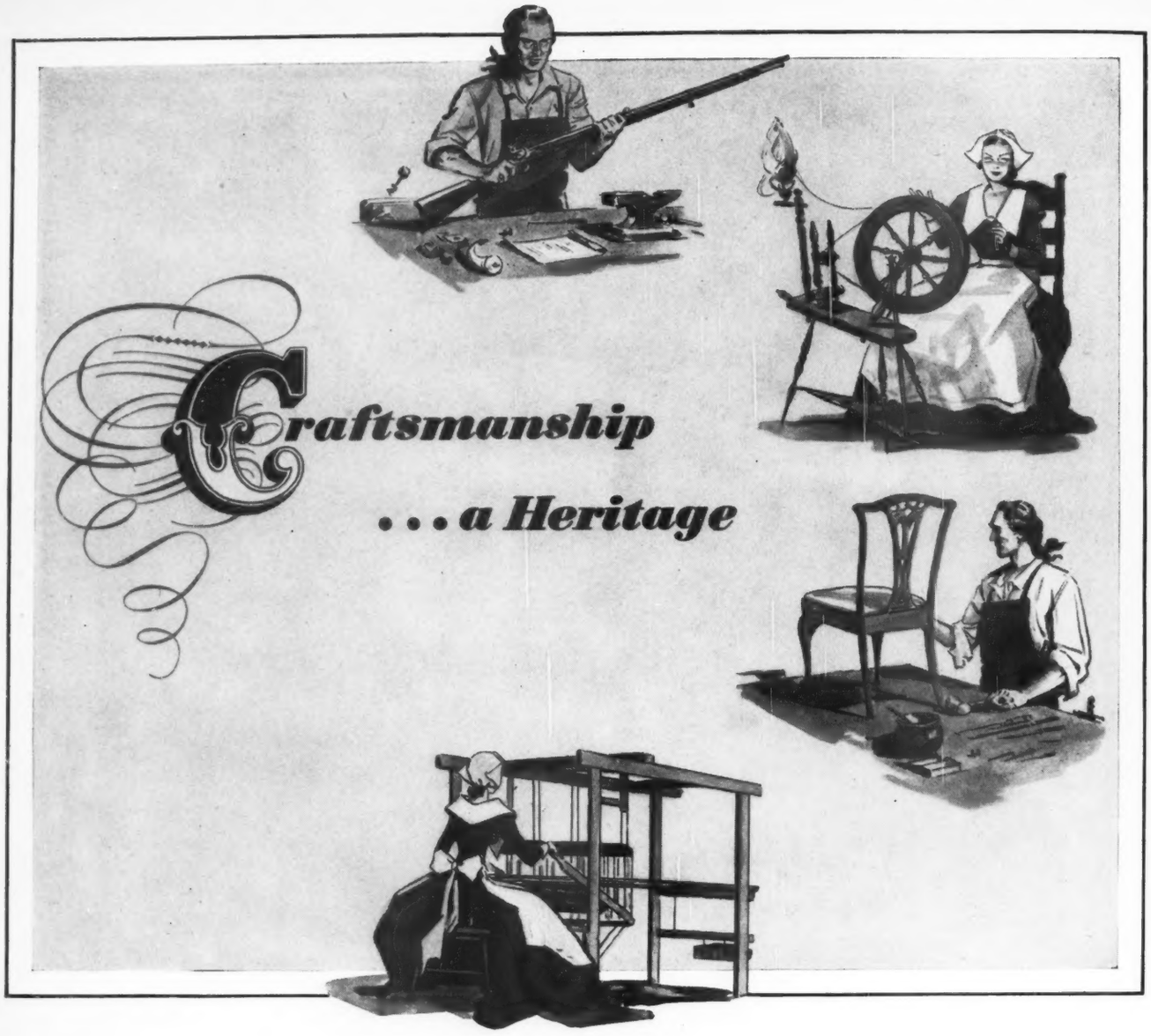
PRINTING EQUIPMENT Engineer

AUGUST 1944

• A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.



In the early days of homespun and handicraft the human element predominated in most trades, particularly in printing. The result was that the keenest application of human faculties, the combined force of the spirit and the flesh, became a heritage.

No other craft today enjoys this heritage so much as printing. Invention has simplified and accelerated every printing operation, but the fact remains that skilled man power is still the spark which ignites all printing achievement. Mechanics will never displace the human heart nor dethrone the artistry of the mind.

A successful printing job unites thought, talent, and labor into a concrete and useful whole. The styling of type, the beauty of presswork, knowledge of color, ink, and paper—all these are aimed at the perfection of successive steps—vitalized by a craftsmanship which adds excellence to excellence until the bindery adds the crowning touch of completeness. On one hand, the huge American budget for printing has been a challenge; on the other, the superb facilities of the printing craft are meeting these needs. The gap has been bridged by the foresight of the printer, plus his devotion to a craftsmanship handed down through generations.

NOW AVAILABLE. Complete and comprehensive Guide Book of Essential Wartime Printing and Lithography. 64 pages (8½" x 11") of detailed description and information on every government public relations problem which can be aided by printed promotion. We shall be glad to obtain a copy for you . . . or write direct to Graphic Arts Victory Committee, 17 East 42nd St., New York City.

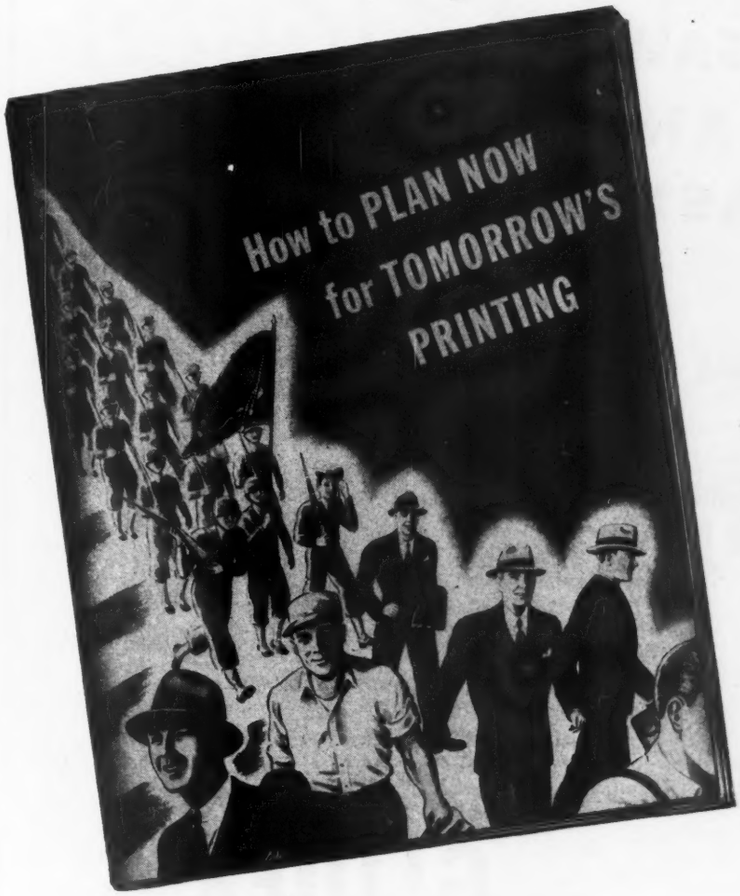
HARRIS · SEYBOLD · POTTER · COMPANY

HARRIS DIVISION
CLEVELAND 5, OHIO
MANUFACTURERS OF OFFSET LITHOGRAPHIC • LETTERPRESS AND GRAVURE PRINTING MACHINERY • • • • •

SEYBOLD DIVISION
DAYTON F7, OHIO
MANUFACTURERS OF PAPER CUTTERS AND TRIMMERS • KNIFE GRINDERS • DIE PRESSES • WRIGHT DRILLS • MORRISON STITCHERS

WHAT TO DO

about postwar planning?



Here is the most practical help ever offered to the printer. Enables any printer willing to DO SOMETHING ABOUT IT to analyze his market and equipment, plan his production, and sell his services. This booklet is a "MUST" for printers who expect to be in business after the war.

Get your free copy

Practically does your planning for you in five logical steps. Scientific but simple... shows you just where you'll stand when the war is won and the dammed-up flood of post-war printing is released. Every step fully explained... completely charted. Ask your ATF Salesman for your copy or send to

ATF

CIVILIAN PRIORITY DELIVERY PLAN

Don't Wait! Reserve now the presses you will need for tomorrow's printing. Assure your definite place in line with a certified Priority Number on any of these ATF presses:

LETTERPRESS

Style C Kelly No. 1 Kelly No. 2 Kelly
Kelly Clipper Little Giant

OFFSET

Little Chief Chief Big Chief

American

TYPE FOUNDERS

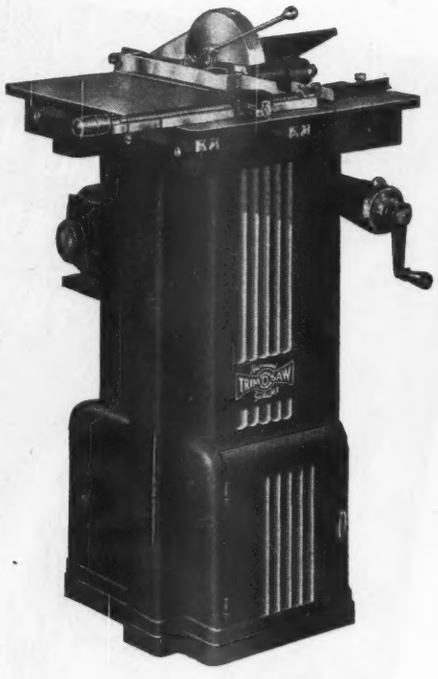
200 Elmora Avenue, Elizabeth B, New Jersey

BRANCHES AND DEALERS IN PRINCIPAL CITIES

LOOK TO *Hammond*

FOR TOMORROW'S FINEST

SAWS AND CASTERS



Hammond "8" EASYKASTER

Hammond GLIDER TRIMOSAW

Better operating features and superior construction made Hammond Saws and Casters the choice of most during pre-war days. There is nothing like the smoothness of the Glider's ball bearing table and the easy operation of the EasyKaster "8". Both machines will be back again after the war to do a job for you.

★ *Hammond Machinery Builders* INC. ★

1604 DOUGLAS AVE. KALAMAZOO 54, MICHIGAN • EASTERN BRANCH: 71 WEST 23rd ST., NEW YORK 10, N. Y.

EVER SEE GHOSTS?

THE Goodyear MONARCH Top Sheet for three-piece packing is the way to eliminate "ghosting."

MONARCH gives you a special "patent leather" finish. This means no more peeling, swelling or debossed effect of yesterday's news in today's paper. Other advantages are 100% oil proof, positive ink resistance and easy cleaning.

In addition to the MONARCH Top Sheet, our ARISTOCRAT Top Blankets and PREMIER and RED TOP Underblankets are built to the same high Goodyear standard. That is why more newspapers are printed on Goodyear underblankets than on any other kind.

All Goodyear press blankets are now fabricated from special synthetic rubber — based on actual manufacturing experience for more than ten years. These time-tested products of Goodyear Research meet every performance test. They hold their gauge and have the resiliency required for clear, sharp printing.

"The Best is Yet to Come" in your printing when you repack your presses with Goodyear synthetic press blankets.

Monarch, Aristocrat, Premier, Red Top—T.M.'s The Goodyear Tire & Rubber Company

Distributed by
J. THOMAS McHUGH COMPANY
31 East Georgia Street, Indianapolis 4, Ind.
500 Fifth Avenue, New York 18, N. Y.

GEORGE RUSSEL REED JR.
431 Clay Street, San Francisco 11, Calif.

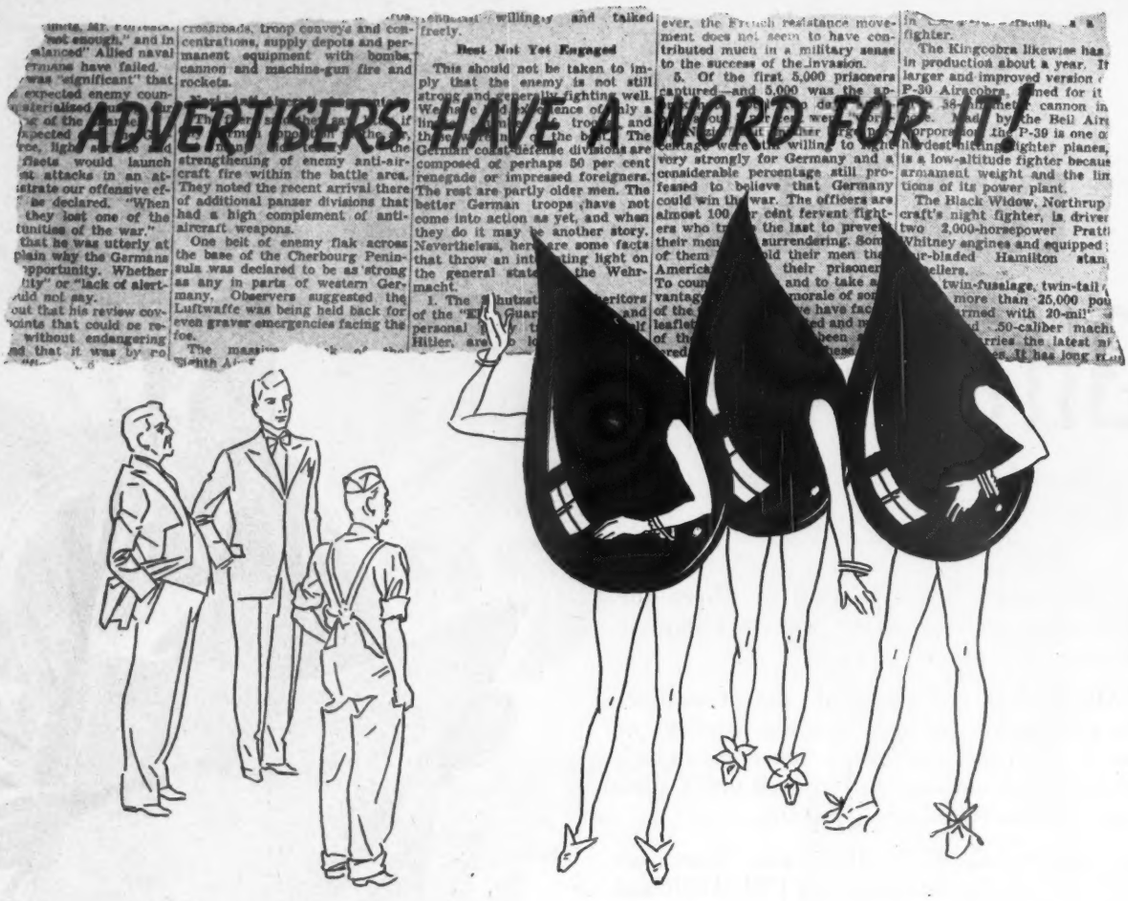
BUY WAR BONDS—BUY FOR KEEPS!

A PRODUCT OF GOODYEAR RESEARCH

GOODYEAR

LABOR-MANAGEMENT COMMITTEE WAR PRODUCTION DRIVE

THE GREATEST NAME IN RUBBER



PRINTERS CALL IT "offset," but advertisers and advertising agents mutter unprintable things! And sometimes they change their schedules.

This can be avoided—is being avoided today by many newspaper publishers—through use of the new Huber News Black Inks. For these inks *know their place* and stay on their own side of the sheet.

These new Huber News Black Inks also eliminate build-up on angle bars, pipes, etc. They decrease first impression offset, give a cleaner, sharper reproduction, and have less tendency to rub off on hands.

One of the three new types—HUBEREX, SUPREX, or ECONEX—is certain to exactly fit your needs. All are now obtainable at short notice. Consult your Huber representative or write any office of J. M. Huber, Inc.: New York, Chicago, St. Louis, Boston.

HUBER PRODUCTS HUBER INKS IN USE SINCE 1780

PRINTING EQUIPMENT *Engineer*

Volume 68 Number 5

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

MacD. SINCLAIR
Editor

ADAM HENRI REISER
Associate Editor

★

PRINTING EQUIPMENT Engineer. Published monthly at 1276 West Third St., Cleveland 13, Ohio.

Copyright 1944 by Willsea Publishing Co.

DON WILL, Publisher
E. P. Bloomster, Western Representative
232 East Erie St., Chicago 11, Ill.,
Phone SUperior 2444.

★

Subscription price per year, $3.50 in advance in U. S. A. Single copy current issues 35c; feature issues $1 per copy; December Equipment and Supplies Catalog Issue $1 per copy. Subscriptions in foreign countries as permitted for duration $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving **Printing Equipment Engineer** under CCA regulations will be charged $1 postage per year in advance.

Member Controlled
CCA
Circulation Audit

Printed in U. S. A.

TECHNICAL BOOKS

STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

PRINTING INKS—Their Chemistry and Technology—**By Carleton Ellis.** Bound in cloth, 6 in. by 9¼ in., 560 pages, wellillustrated. For printing executives, pressmen, photo-engravers, platemakers, ink manufacturers, chemists, paper-makers. Author stays close to printing plant. The solving of new production problems brought about by technological improvements, both in equipment and inks, created the urgent need for this book. Price $7, cash with order.

THE PRACTICE OF PRESSWORK—By Craig R. Spicher. We offer copies to our readers, at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed.

LITHOGRAPHERS MANUAL—Compiled by Walter E. Soderstrom. Second revised edition. Technical information from copy to finished job. Nationally known technical men contributed the bulk of practical camera, platemaking and presswork information. Size 8¾ in. by 11¼ in. Bound in red cloth, gold stamped. Many of the 368 pages are illustrated. Price $5 per copy, cash with order.

PHOTOGRAVURE—By H. Mills Cartwright. Covers all of photogravure's basic principles in concise and readable language. Rotogravure receives minor discussion but this is generally considered best textbook on photogravure process. Contains 202 pages, 34 illustrations, maroon cloth, size 6¼ in. by 9¼ in., $3.50 per copy, cash with order.

MANUAL OF STEREOTYPING—By Joseph Goggin. This 256-page book conveys technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00, cash with order.

PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photoengravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $2 per copy, cash with order.

HOW TO ADJUST WORK-UPS—By Wm. H. Lichter and Geo. F. Smalley. Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and/or elimination of workups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy, cash with order.

HANDBOOK FOR PRESSMEN—By Fred W. Hoch. Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts, $3 per copy, cash with order.

READING AS A VISUAL TASK—By Matthew Luckiesh, D.Sc. and Frank Moss, E.E. Most important research work to have been published in many years. For printers, designers, publishers, typographers and layout men. Readability of type, type faces, length of line, leading between lines, paper, ink, printing method and lighting are some of the factors involved in ease of reading. Size 5½ in. by 8¾ in., 428 pages, bound in maroon gold stamped cloth. Price $5 per copy. Please enclose remittance with order.

Please Note: All book orders must be accompanied by remittance. . . . This is necessary because of narrow handling margin allowed.

PRINTING EQUIPMENT *Engineer*

1276 W. 3 St., Cleveland 13, Ohio

Consult

DUPLEX

HOME of

The World's Finest Newspaper Presses

★

DUPLEX specializes in the manufacture of precision machined newspaper presses and auxilliary equipment and in the solution of unusual engineering and production problems. The skill and experience of DUPLEX craftsmen is at your service — now and after Victory.

THE DUPLEX PRINTING PRESS COMPANY

BATTLE CREEK, MICHIGAN

500 FIFTH AVENUE
NEW YORK 18, N. Y.

77 W. WASHINGTON ST.
CHICAGO 2, ILL.

Basic Axioms in a Wartime Economy. No. 1

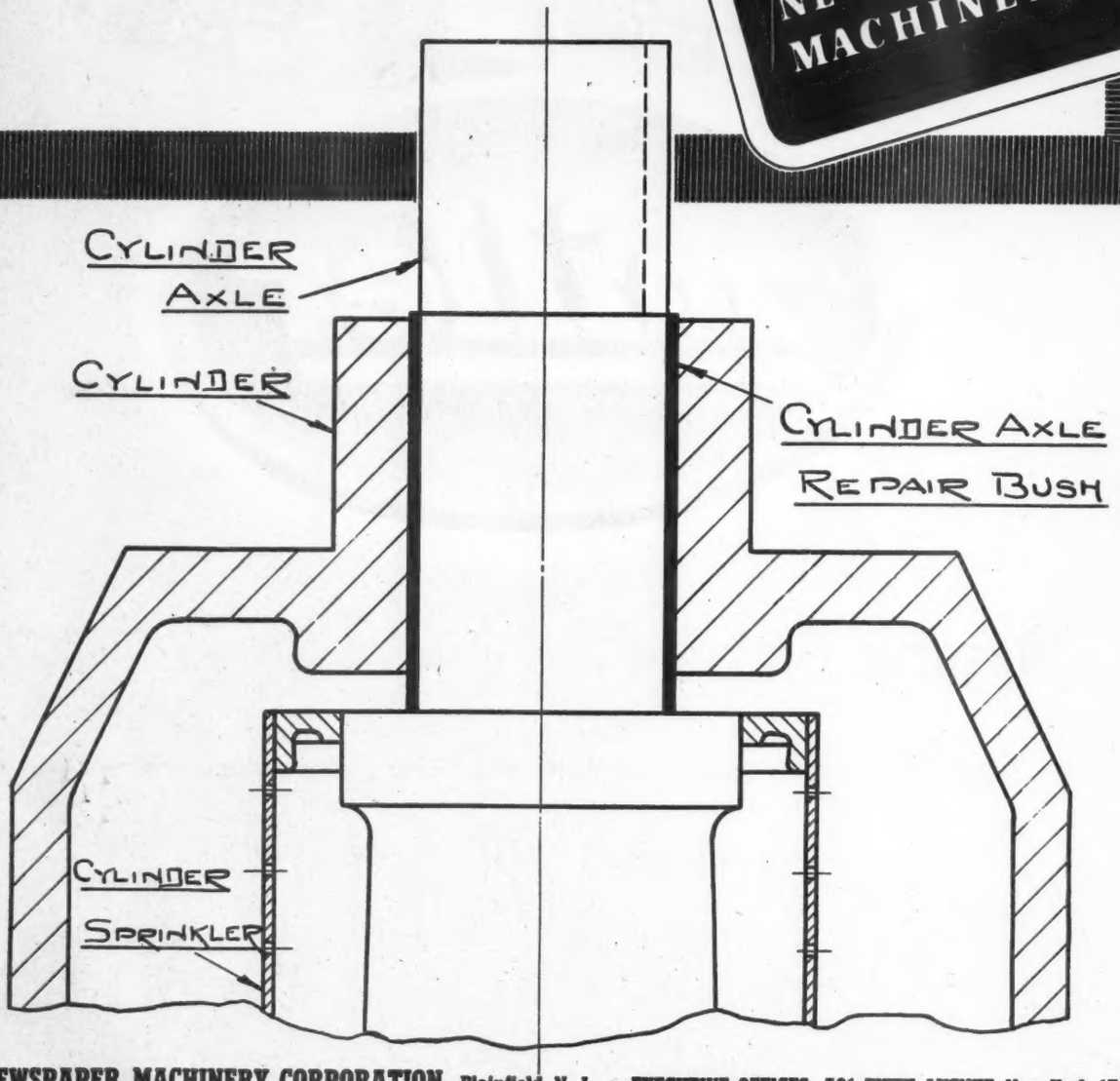
miller

War-Time Maintenance Hint for JUNIOR AUTOPLATE *owners*

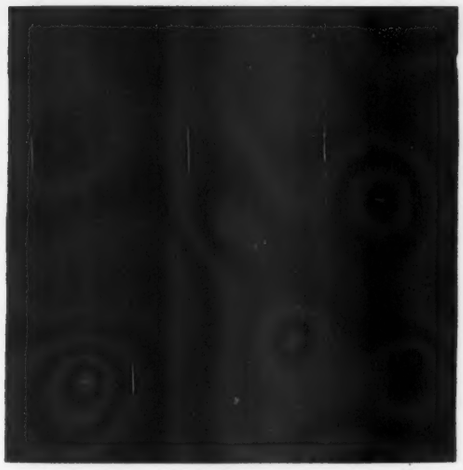
BUSHING UPPER CYLINDER BEARING

After long service, the upper cylinder bearing (top of cylinder axle) of Junior Autoplates, will wear down. When wear at this point becomes severe, the cylinder can no longer be kept parallel with the casting box. We recommend removing cylinder axle, turning the bearing down, and installing a brass bush as shown in diagram below. Cylinder bore should also be checked. If necessary, re-bore to a slightly larger diameter. (Brass bushes for repair can be furnished promptly from stock).

Wood
NEWSPAPER
MACHINERY



WOOD NEWSPAPER MACHINERY CORPORATION, Plainfield, N. J. • **EXECUTIVE OFFICES: 501 FIFTH AVENUE,** New York 17, N. Y.



"Hats Off to the Past— Coats Off to the Future"

Quotes President Walter Schultz from Howard T. Hovde in voicing slogan for Craftsmen at Niagara Falls, Ont. convention — Heavy technical program valuable to plant executives

By STAFF WRITER

WHILE international friendship was promoted by the twenty-fifth annual convention of the International Association of Printing House Craftsmen, the event will go down in Graphic Arts history as one of the best ever held. Less time was spent in considering the internal affairs of Craftsmen and more time to the consideration of wartime technical subjects than any convention in recent years.

The convention was held at Hotel General Brock, Niagara Falls, Ont., July 24, 25 and 26. While the official registration was announced as 469 persons, there were over 500 people at the meeting. This year's convention, for the first time, was held under the auspices of the International Board of Governors. President Harvey Glover was convention chairman; Charles R. Conquergood of Toronto, was resident chairman; Edward Patten of Toronto, acted as resident vice chairman; Douglas C. McMurtrie, Chicago, was program chairman.

The Ladies' Committee consisted of Mrs. Harvey Glover, chairman, assisted by Mrs. Charles R. Conquergood and Mrs. Edward Patten. Approximately 80 ladies were in attendance at the convention.

New developments in letterpress and offset and methods of placing ink on paper were announced and discussed, and glimpses of projected postwar possibilities were presented.

One of the most important clinics of the entire convention was that devoted to Shop Methods and Management on Tuesday afternoon, July 24. A cross-section of the operation of small, medium and large-size plants was afforded Craftsmen attending the convention by plant executive speakers.

Electronographic Printing

THE most radical of the projected developments talked about at the convention is the plan of William C. Huebner, Huebner Laboratories, New York, who by his very conservatism, indicated that he might be within reach of the solution to his idea to perfect a press to operate in such manner that ink will be transferred from a printing plate to paper by means of an electrical field of force. He calls it "Pressureless" or "Electronographic" printing.

When asked specifically by a skeptical questioner following his brief address, what progress he had made since last year's convention during which he presented a paper, his reply was that he had made his greatest advances within the past six months.

The major portion of Mr. Huebner's address was devoted to a discussion of the reconversion of men and women from war service to peace-time jobs, and to our business economy after the war. "These ex-service people," said he, "must be free to take and have employment. They fought for that freedom as well as for the others. Full employment will require the utmost attention from executives and labor leaders in every industry."

Continuing, he said: "It is only by honest work, earning necessary profits, that all reasonable freedoms can be enjoyed by all persons anywhere as useful members of civilized society.

"Nature operates on the profit system; she rewards honest effort if it cooperates intelligently. Indifference, laziness and incompetence never raised a crop or a profit on which to live in a worthwhile manner.

"Business enterprises, farms, and homes are exactly alike in their basic needs. The business enterprise, the farm, and the worker must have a sufficient profit for all reasonable needs.

"Free cooperative industry can and will help all of us to work out of this economic mess, if honesty of purpose and straight thinking, first for the general good, prevails; we must also have the wholehearted cooperation of all who be-

lieve in personal enterprise, and who, with clear minds and willing hands will insist on earning a worthwhile living and collecting both earned profits and seed money, thus earning their social security.

"Cycles of prosperity and depressions, time-spaced by destructive wars, can be ended if the will to do so is asserted by all of us."

During the first part of his discussion, Mr. Huebner referred to reports of speeches in the trade press in which it has been stated that postwar changes in letterpress, offset and gravure will be limited to conservative improvements, and that nothing radical or revolutionary exists in the postwar program.

"Such viewpoints," said he, "appear to be logical. But statements from those who have nothing new to offer do not describe what others can and will offer for use in the period immediately following the postwar adjustment. In the Graphic Arts, that may amount to a new industry, and very likely will produce a new labor union financially responsible for its actions."

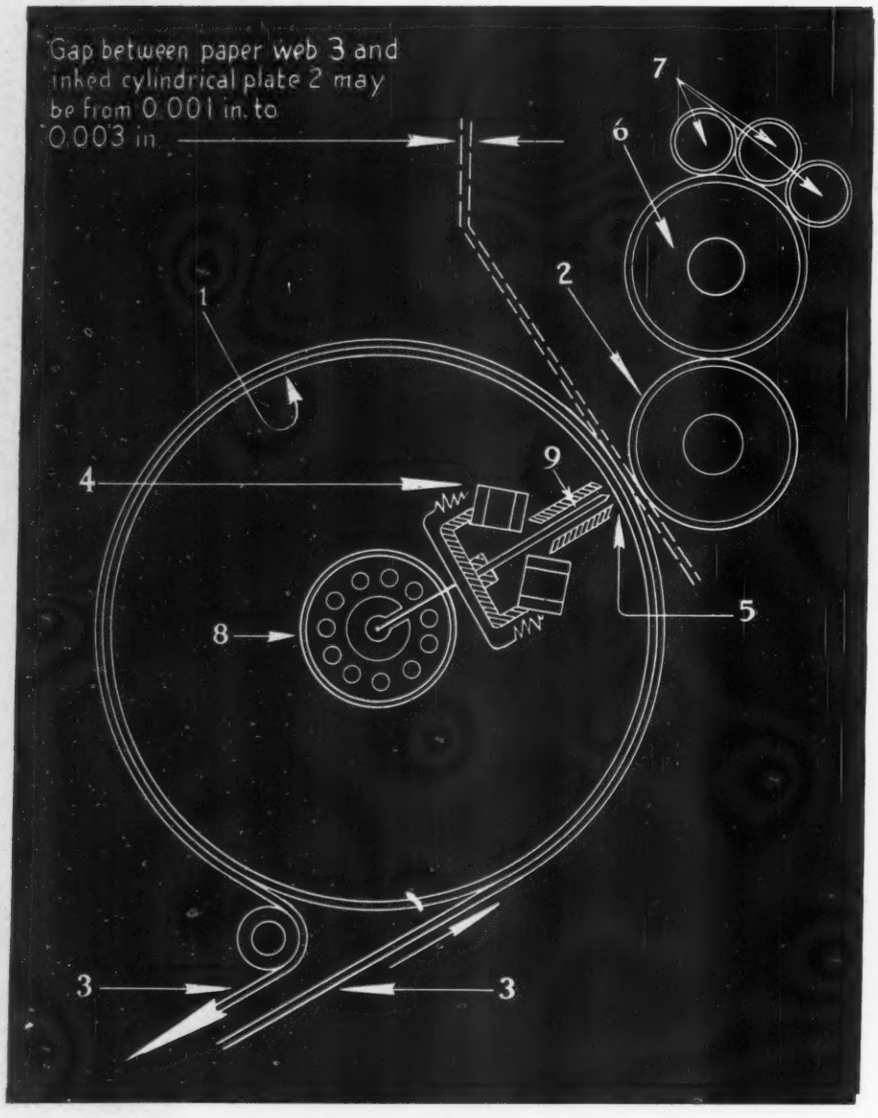
Coming from a man of fewer achievements in the inventive realm, such statements could be dismissed with ease as representing convention oratory, but coming from such a renowned inventor as Mr. Huebner, they carry special weight.

Diagram showing theoretical cross-section arrangement of Huebner Electronographic or Pressureless letterpress "printing" press. It is to be understood that this diagram is purely theoretical and imaginary and is intended only to explain the principle of pressureless printing. Mr. Huebner has explained that the means for attracting ink from plate to paper can also be adapted for work to be done by offset-lith and gravure printing, by applying modified plate cylinder and suitable inking units in place of letterpress plate and inking unit.

The arrangement of the component press parts for letterpress printing in this diagram are explained as follows: At *1* is indicated the hollow impression cylinder mounted upon stationary shaft *8*. Around the cylinder *1* is wrapped the paper web *3*. The plate cylinder carries curved plate *2*. The plate *2* is inked by the hard-surfaced inking cylinder *6*, which in turn is supplied with ink by rollers *7*.

Now, as the surfaces of the paper web *3* and the inked plate *2* rotate in unison, the ink on the plate *2* is caused to be transferred to the paper surface by an electrostatic field of force opposite the point *5* where inked plate and paper ordinarily would contact each other. In the instance of the electronographic press there is a gap ranging from 0.001 in. to 0.003 in. between inked plate and paper surface.

Mounted stationery position within the hollow impression cylinder *1* and extending horizontally the entire printing width of the impression cylinder is an electrostatic device *4*. It is understood that this drawing *4* is merely symbolic for explanatory purposes. When the necessary potentials are supplied, an electrostatic field of force will be induced in blades *9* at point *5* across the interior of the printing width of the impression cylinder, and the lines of force will be directed radially and inwardly to attract the ink from plate *2* to paper *3*.



Shop Methods and Management

SHOP methods and management were discussed in a clinic at which Lester Oswald, Production Manager of E. F. Schmidt Company, Milwaukee, Wis., and E. T. Samuel, Superintendent of A. S. Gilman, Inc., Cleveland, were co-chairmen. It was evident from the way the clinic turned from one topic to another, that the leaders had done some pre-planning to achieve ample discussion about good production during the clinic.

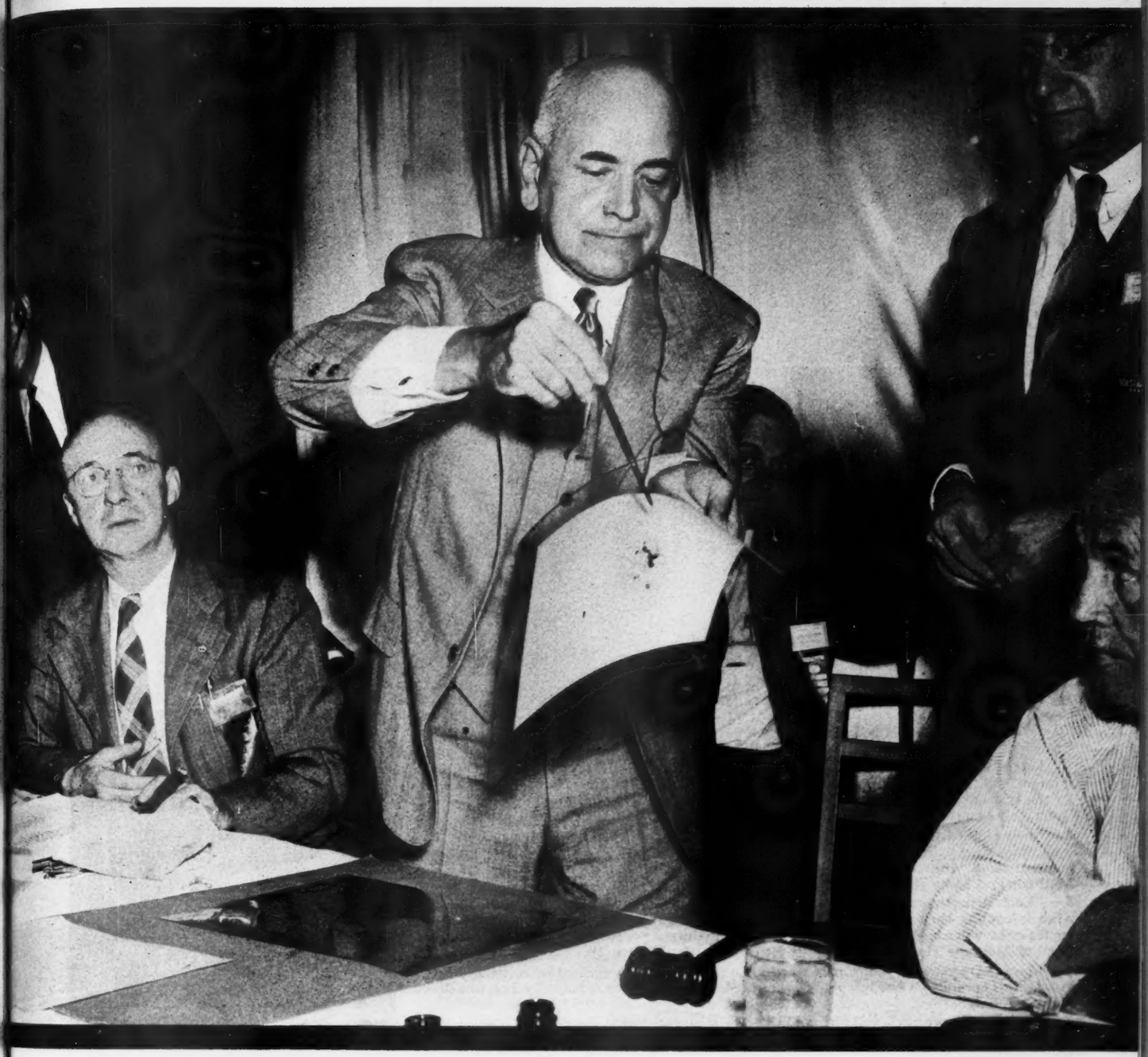
Some of the finest printing plant executives in the country participated in the discussions and gave valuable information for better plant operation—both from the human element and production standpoint.

Routine methods of how jobs are entered, how instructions are indicated for the information of all persons in the mechanical departments who must work on the jobs, and how costs should be ascertained were among the topics discussed. Co-Chairman Lester Oswald remarked that he had visited numerous shops and he had observed a lack of uniformity in keeping records. He expressed the view that no shop could be operated efficiently until and unless an adequate cost accounting system was in force.

Among other things, Mr. Oswald described the plan in effect in the E. F. Schmidt plant for making equipment repairs. Most of the work done in his plant consists of direct mail pieces. The plant operates two shifts per day. For a brief period during the summer, the plant is shut down so as to permit making thorough repairs, including the motors, lighting system, as well as the machinery. "It is surprising," said he, "the amount of repairs that are necessary."

Ideas in Plant Management

In his presentation Mr. Samuel laid stress upon the need of checking up uses to which paper are put during the war



Dramatic Moment at International Craftsmen's Convention, Niagara Falls, Ont. Extremely intent upon success of objective, Wm. C. Huebner demonstrates principle around which his electronographic printing press is built. Expressions and postures of the men watching demonstration in this picture are typical of all Craftsmen in the audience to whom Mr. Huebner got across the idea as to why ink will fly to paper under proper conditions. At left, Howard King (Maple Press, York, Pa.) forgets to draw on the old boiler; Herbert Threlfall, International Secretary, regards the demonstration with equanimity; peering from rear of Mr. Huebner, Charles Gainer, International Treasurer, regards things quizically; at upper right, Harvey Glover, International President, views the proceedings calmly; at lower right, Canada's Louis Blake Duff, it appears, now believes it's true after being shown.

Toward the end of his address upon the topic *Future Possibilities in Printing Production,* Mr. Huebner discussed briefly his newest inventions—photo-textyping method of type composition and electronographic printing press.

For the electronographic principle of printing demonstration pictured above, Mr. Huebner rubbed a sheet of transparent celluloid briskly with a handkerchief to generate a positive electrical charge. He then laid a sheet of ordinary yellow office copy paper over the charged transparent sheet. Next, he dipped an artist's brush into a bottle of ink. Passing the tip of the brush to and fro before the paper at a distance ranging from two to three inches, the ink flew from brush to paper by reason of the attraction of the electrical charge in the celluloid sheet.

In presenting a brief description of the principle of the Huebner Electronographic Printing Press, it should be borne in mind by the reader that this new pressureless printing method is entirely rotary in operation. The method may be used for printing by letterpress, offset and gravure by changing the plate cylinder and inking mechanism units. According to Mr. Huebner, there is a gap ranging from 0.001 in. to 0.003 in. between the inked plate and the surface of the paper web. As the surfaces of the plate and the paper revolve in unison opposite each other, the ink "jumps the gap" from plate to paper. The means utilized for this purpose (mounted stationary position within and extending horizontally to the axis of the impression cylinder is an apparatus consisting of suitable electrical parts) which create a concentrated field of force consisting of electrostatically induced lines of force, at the inside surface of the impression cylinder underneath the paper web and opposite the inked plate cylinder.

It is a part of this Huebner invention that by mounting four plate cylinders with plate-inking apparatus around a large drum or impression cylinder, together with the complementary electro-static apparatus mounted stationery position in the interior of the impression cylinder (each opposite a plate cylinder) that wet multi-color work can be done in one passage of paper around impression cylinder.

CHAIRMEN AND SOME SPEAKERS AT SHOP METHODS AND MANAGEMENT CLINIC

1.—Lester Oswald, Production Manager of E. F. Schmidt Co., Milwaukee direct mail printers, said: "We now insist that any customer changes in specifications, approved both by the cost and sales departments, be reported immediately to production department." Oswald was co-chairman of Shop Methods and Management Clinic.

2.—"I have tried working from the general office, but have found that a saving in labor is accomplished by having my desk in the composing room."—Superintendent Edward T. Samuel, A. S. Gilman, Inc., Cleveland. Mr. Samuel served as co-chairman of Shop Methods and Management Clinic.

3.—"Each department head receives a copy of all production schedules so each will know what is coming their way . . . . The maintenance department head also receives these copies so he will know when he can repair or do maintenance work on equipment."—Production Manager Harold Ross, Kable Bros. Co., Mt. Morris, Ill.

4.—Marcus Overstreet, Johnson & Hardin Co., Cincinnati, described interestingly operation of his company's law, play and other book printing. Plant is contained on five floors in old building.

5.—"Boys, we have no competition. I operate a private plant doing $100,000 worth of printing for four hotels."—Ray F. Brown, Production Manager, Hotel Peabody Print Shop, Memphis, Tenn.

6.—"In the printing plant, man comes first—then the machine."—Alex J. Alberg, Manager of Printing, Unity School of Christianity, Kansas City, Mo.

7.—Neal Wendling, associated with Stanley Mfg. Co., specialty plant in Dayton, O. asserted: "Every plant executive should train a competent assistant so he can get away to visit other plants and attend conventions."

period when limitation orders are being placed upon printers. He urged that shop executives keep in mind the recommendations that small margins and lighter weights should be used. He also stressed the importance of avoiding spoilage of paper because it was becoming increasingly a critical material in our economy.

Mr. Samuel related that in one instance while passing through the pressroom, he noticed the feeder pulling some sheets from the press and throwing them upon the floor. He tossed some pennies on the spoiled paper, whereupon the operator responsible for the spoilage asked him what he meant by throwing his money away. His reply was that the coins represented the cost of the paper which the worker had carelessly spoiled. The feeder was quickly adjusted.

During the course of his talk, Mr. Samuel stated: "I have tried working as superintendent from the general office, but have found that a saving in labor has been accomplished by having a desk in the composing room. Much planning time can be saved once an organization functions as a team, cooperating with one another to the extent that the run-of-mine bread and butter accounts progress through the plant with minimum supervision. This plan will enable the superintendent to devote more time to problems of coordinating the flow of jobs through the various departments, eliminates bottlenecks, and provides help where needed. Our planning consists of securing the necessary information through the use of printed forms so that no details may be overlooked to help visualize the job through all its operations. These forms, after being filled in, are then dispatched to the department heads concerned with the information.

"To conserve the time of our overburdened working force, we have adopted the procedure that all jobs are so marked that no further explanations are necessary. This is a three-fold saving in explanations and interruptions that take place due to lack of a comprehensive layout or carelessly marked proofs. When a job is received, the key men are called together and the necessary production

information is given to them at one time. This method gives the men a preview of the job. When it reaches them for action they have already planned the work to be performed. As a result, many suggestions are received from the departmental heads to simplify the handling of the job."

Customer Confidence

George Daughraty, Production Manager of Benham Press, Indianapolis, Ind., gave a short but interesting discussion. He referred to the manner in which customer confidence can be developed to the point where added costs will be granted if helpful information is supplied the customer. He illustrated this by stating that recently a customer brought in a catalog to be printed. The customer had set an arbitrary price of $4000 for the job. Mr. Daughraty stated that if his firm had carried out the customer's ideas, the job would not have served his purposes. After discussing the art work and a number of changes in the engravings and arrangement of the pages, the customer readily agreed to a $10,000 price for the job. Later, Mr. Daughraty answered a question by stating that his plant consisted of a 12-press pressroom but operated without a composing room.

Operates Five Floors In Old Building

Marcus Overstreet, of Johnson-Hardin Co., Cincinnati, described his company's plant which is operated on five floors of an old building and produces complicated book work. Mostly, the work is patent base work. He told of the methods used by which all employees doing any part of the job were informed by means of printed specimens pages, guide sheets showing margins, running heads and all other facts about the job, that little moving about from one floor to another was necessary to learn what should be done. Thus by means of precision and comprehensive planning, the objective of avoiding waste motion was achieved.

Has No Competition

Ray F. Brown, manager of the Hotel Peabody Printshop, Memphis, Tenn., talked interestingly about the plant which does printing for four hotels. He said: "Boys, this is a private plant and we have no competition." Annual business volume is about $100,000. He said part of the hotel menus are printed on platen presses from 11 pt. plates mounted on Warnock steel base with no makeready. The same packing is used on all presses. A sheet of glassine is placed over the draw sheet. The Linotype slugs from which some printing is done, last about three months. See box in another column about the Peabody Printshop's efforts to please its clientele.

Coordination Fostered By "Higher-Ups"

How the Kable Brothers plant in Mt. Morris, Ill., is operated was described by Production Manager Harold D. Ross. This firm prints 140 publications each month, ranging from 500 to one million copies each. Flat and curved plates are used. There are three 96 page gravure presses in operation in the plant in addition to letterpress equipment and other necessary mechanical equipment.

Mr. Ross explained some of the details about production operation when a new publication is brought into the plant. A dope sheet is gotten together, the information for which is collected by the sales department. All specifications are entered on this dope sheet, such as paper, ink, and typographic details so the production department "can get off on the right foot." Usually, an editor is assigned from each publication to contact the production department. All plant scheduling is done by the production manager and his assistant.

Copies of all publication schedules are given to the heads of all mechanical departments so they will know what is coming their way. Even the maintenance department is given a copy of all schedules so it can plan repair and maintenance times for each machine in the plant.

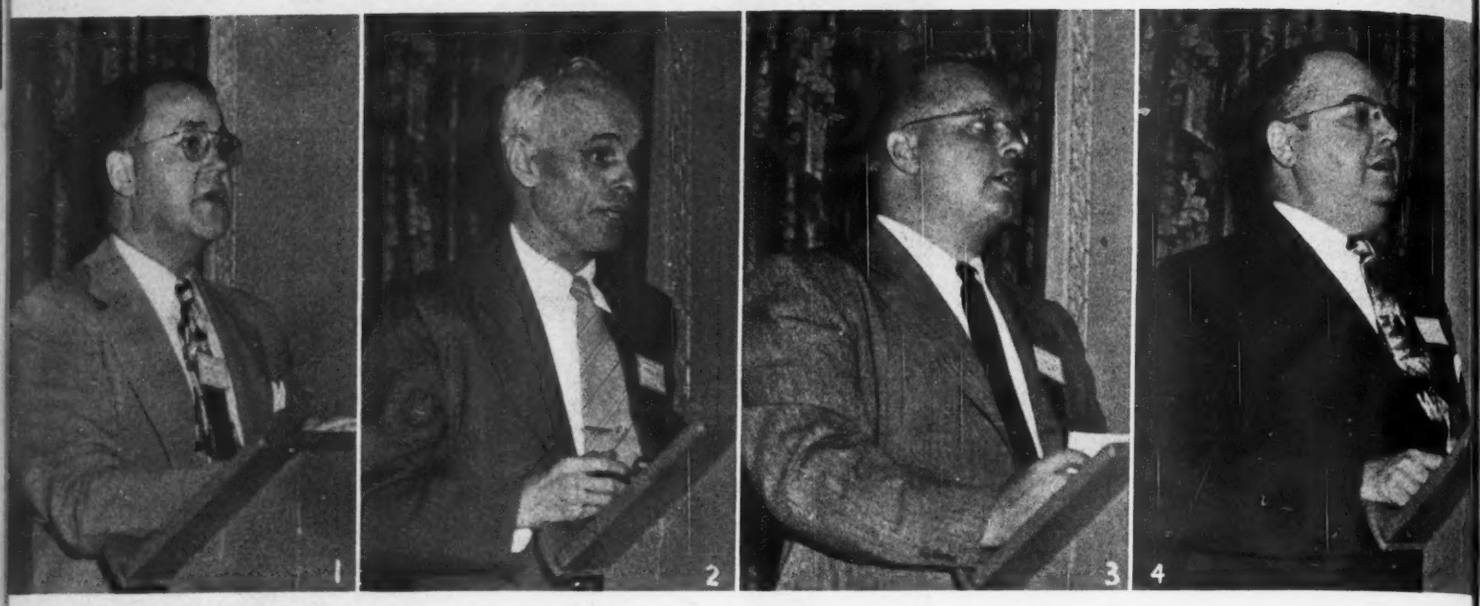
At 7 o'clock each morning a complete report of the standing of each run is made. At 8:45 o'clock each morning a meeting of the production staff and the departmental foremen is held. The day's problems are discussed with reference to production, labor and machinery. In this way every departmental executive gets the same information first-hand and it isn't necessary for him to spend time asking anyone about important informa-

New International Craftsmen's Board of Governors—**First row, left to right: Second Vice President W. H. Griffin, Manager, Griffin Bros.' Typesetting, San Francisco, Calif.; Secretary Herbert Threlfall, President of Greene Co., Providence, R. I.; President Walter F. Schultz, Production Manager, Texas Farm and Ranch Pub. Co., Dallas, Tex.; First Vice President H. Guy Bradley, Production Manager, Printing Dept., Eli Lilly Co., Indianapolis, Ind.**

Second row, left to right: Third Vice President A. Gordon Ruiter, Mechanical Superintendent, Forbes Litho Co., Boston; Immediate Past President Harvey Glover, President, Sweeney Litho Co., Belleville, N. J.; Treasurer Charles W. Gainer, Composing Room Supt., Intl. Harvester Press, Chicago.

Third row, left to right: Chairman Research Commission Herman Slater, Pressroom Supt., The McBee Co., Athens, O.; Publications Commission Chairman Edward H. Christensen, Production Manager of Central Typesetting & Electrotyping Co., Chicago.

Mannie Hubbell, Production Department, Meredith Pub. Co., Des Moines, Ia., the newly appointed Educational Chairman, was not able to be present at the time this picture was taken.



Chairmen and Speakers at Letterpress Platemaking and Printing Clinic, Niagara Falls, Ont., International Craftsmen's Convention

1—Gradie Oakes, President, Process Color Plate Co., Chicago, presided as one of two co-chairmen at the meeting.

2.—Albert H. Davenport, General Superintendent, Globe Ticket Company, Philadelphia, presided jointly with Gradie Oakes as co-chairman.

3.—"Bakelite plastic duplicate plates can be made up to 175 line screen. As high as 400 plates have been made from one mold. Plates are molded under 1200 lbs. per sq. in. pressure and under 300 deg. F. of heat."—So said Eugene Williamson, Manager, Printing Materials Division, Bakelite Corporation.

4.—"The problem of electronic drying of inks is now being worked on. The method has not been perfected yet, but progress is being made."—Anthony J. Math, Past President National Association of Printing Ink Makers, and President of Sinclair & Valentine.

tion. Coordination by and between all departments is secured.

Mr. Ross explained that once each week officials of the company hold a meeting to which a foreman from one of the departments is invited. These meetings achieve the end beforehand instead of afterwards.

Capable Assistant An Asset

Every plant executive should have a capable assistant so that he can go to conventions, conferences and to visit other plants to acquire new ideas of operation, so Neal Wendling, of Stanley Manufacturing Co., Dayton, Ohio, suggested. Wendling is associated with a specialty plant. He reported that his company is planning a new factory which he is helping to design, and that all departments will be so arranged that there will be no back-tracking in the handling of materials and operations. He attributed many ideas to be incorporated in the engineering job of the new project to his having taken the time to get ideas from other plants and at Craftsmen's conventions.

Several of the executives who participated in the shop methods discussion referred to the routine of having conferences of shop foremen and office contact men in order to facilitate the transmission of instructions on jobs to avoid misunderstandings and individual conversations.

J. R. Bowler, superintendent of the Citizen-Courier Company, Lowell, Mass., described the production control system which is routine in that plant, and added that in the event any foreman discovers he is lagging behind in his schedule he must take necessary steps by means of added employees or overtime work to catch up, and then keep up with the production procession.

Man First—Then The Machine

While most of the men talked about the mechanics of the production operations of their plants, Alex J. Alberg, manager of printing of the Unity School of Christianity, Kansas City, Mo. presented a fine paper on how employees who might get out of balance in their viewpoint should be readjusted. He expressed the idea that if and when machines fail to function as they should, the executives should not censure the machines but proceed to ascertain what is wrong and after determining the cause, set it right. Similarly, he argued that the human element in the working force of an establishment should be adjusted as scientifically and as efficiently.

"J.I.T." which stands for job instruction training came in for some discussion. One of the executives said that the methods employed by the War Manpower Commission to train war workers should be adapted to the training of employees in the Graphic Arts.

It's Patriotic To Be Thin

In common with many other publications, *Printing Equipment Engineer* has been complying progressively with War Production Board orders respecting paper conservation.

At the outbreak of the war we used 65 lb. paper. More recently, we have been printing on 55 lb. stock. Commencing with this August issue, however, we are using 45 lb. paper. Who knows what further reductions may be required for successful pursuit of the war? If necessary, we are prepared to utilize 40 lb. stock.

We hope you'll continue to profit from the information contained in this magazine each month irrespective of the lighter paper, the opacity, color and finish of which aren't exactly what is expected of a technical magazine.

Bi-Metal Offset-Lith Plate

AN outstanding development which will affect the lithographic printing process was mentioned casually in answer to a question toward the close of the clinic on Offset Platemaking and Printing on Wednesday morning.

Ernest Jones, President of the Graphic Arts Corporation of Ohio, who was presiding as one of the co-chairman, had said nothing about the new alloy faced

[1]See page 30, July issue of *Printing Equipment Engineer*, carrying report of Mr. Jones's remarks at conference of Lithographers National Association.

metal plate[1] which his firm has developed.

One of the Craftsmen in the audience remarked that, Jones being in a presiding position, ought not to deprive the audience of such information about the new bi-metal plate which he might be willing to convey. Mr. Jones then explained that the alloy-faced stainless steel base plate was developed in accordance with the principle that made the Garand rifle possible. Oxidation of a metallic surface has its uses and it has an affinity for ink. The dot formation on the new plate is made from the oxidized surface.

The new bi-metal plate, explained Mr. Jones, prints a lot sharper than standard plates. Plates can be made from either negatives or positives.

The plate is grained electrolytically and carries a fine grain. The alloy surface itself when deoxidized has an affinity for water but none for grease. Oxidation is removed from the non-printing areas after the plate is made in a tank.

Mr. Jones believes the cost of the bi-metal plates will be as low as aluminum plates.

When the plates are grained electrolytically, the oxidation is put on over the entire surface of the plate. The graining operation takes from 3 min. to 20 min. The plate really is a reverse plate—not deep-etch. The coating is all albumin. Ordinary ink functions as the resist when the plate is put into the tank to provide the non-printing areas.

The printing image can be removed from an old plate electrolytically in 10 sec. Removal of the printing image does not wear the plate away—the chemical action in the tank only removing the old image.

In order to preserve plates it is not necessary to gum them.

The new plate can be furnished in any thickness, up to 64 in. wide and in any length. The qualities of the plate are such that there will be no chemical reaction which would contaminate either the ink or the water in offset printing, thus eliminating one of the disturbing elements in present practice. Such plate as described by Mr. Jones will be usable for as much as 1,500,000 impressions. He assured Craftsmen that the plate has gone through all required experimental stages. It will be produced as soon as present restrictions against securing the necessary materials are removed.

Surplus Camera Equipment After the War

Abstracted from address delivered by Meiric K. Dutton, Assistant Director of WPB's Printing and Publishing Division, Washington, D. C., before the Southeastern Photo-engravers Association, Ashville, N. C., July 1944.

IN addition to copper and zinc supplies and regulations, I understand there is one other question which concerns you—the question of surplus Government platemaking equipment, especially cameras, which may be hanging over the market after the war. Up to now, perhaps 500 cameras of gallery and dark-room types—and of sizes 24 in. by 24 in. and up—have been bought by the Army and Navy. Of these, some will undoubtedly be kept by the Services after the war for permanent map-making projects. Others, especially those which are mounted in mobile truck units, will have suffered from severe usage.

We do not believe that the quantity of these cameras to be put on the market after the war will cause serious dislocations, especially in view of the fact that normal replacements by photo-engravers and lithographers have not been made over the past 2½ years.

The disposal of surplusses will not be permitted to become an orgy of dumping, but will be managed through the agencies of the Surplus Property Administrator according to policies and rules which are being carefully framed to keep the equipment out of the hands of speculators, and to make it possible for all businesses to get a chance to buy the equipment at fair prices. In the quantities and at the times that these surplus cameras may become available, we believe they will be absorbed without creating dislocations.

Ink, Rollers and Offset Blankets

SPEAKERS representing both ink and roller manufacturers expressed the general view that whatever new developments might be made in presses and in paper would be matched with needed improvements in inks and rollers by manufacturers in these branches of the industry.

Anthony J. Math, president of Sinclair & Valentine, spoke for the ink manufacturers in his capacity as past president of the National Association of Printing Ink Makers before the Letterpress Platemaking and Printing Clinic on Tuesday afternoon. David M. Rapport, president of the Rapid Roller Co., spoke generally at Wednesday's Offset Platemaking and Printing Clinic on the subject of rollers and blankets.

Mr. Math explained that the printing ink manufacturers are working under a handicap during the war, inasmuch as their plants have been practically commandeered. He said, however, that the manufacturers hoped it wouldn't be long before the European war would be finished, after which they will be able to furnish inks to meet all requirements.

Ink manufacturers, too, are engaged in postwar planning. The printing industry itself will be the largest single factor in turning industry in general back to peacetime pursuits.

He asserted the trend in color printing will continue, saying that he has never

Co-Chairman of the Composing Room Practice Clinic—1—"The answer to the shortage of help problem is job planning. Send a 'blue print' of each job to the production departments to eliminate lost time."—John Morrell, Gazette Printing Co., Montreal, Can. *2*—"The composing room foreman must get a good overall picture of what the final job should be so he may interpret the layout correctly and pass on intelligent information to his men."—Joseph Thuringer, Case-Hoyt Corporation, Rochester, N. Y.

Shown here conversing with Herman Slater (left), Pressroom Superintendent of The McBee Company, Athens, O., is Douglas C. McMurtrie, Educational Commission Chairman who was also Program Chairman for the 1944 International Association of Printing House Craftsmen's Convention held at Niagara Falls, Ont., July 24-26. Mr. McMurtrie has served the International as Chairman of the Educational Commission for three years. He has done an outstanding job. Particularly, many comments were heard upon the arrangement of this year's convention program. The various sessions were so arranged that business sessions were briefed in favor of the technical clinics. Perhaps the greatest appreciation was extended by offset-lith executives who were allotted the entire morning during the last day of the convention. The business and election of officers session was held Wednesday afternoon. The offset-lith clinic usually has been held during the "remnants" of the afternoon of the last convention day, the business sessions sometimes extending well past the noon hour.

seen so much interest as now in color printing.

He said that basically the ink industry is not a chemical industry. The ink men go to manufacturers for dye stuffs, and other ingredients. Abrasive colors have been improved and there will be less of this difficulty in the future. Among other things he said that regular peacock blue gloxine colors could not be used because they bled in water for offset printing, but this will be corrected in the future.

Mr. Math, who succeeded L. W. Claybourn on the speaking program, concurred in Claybourn's suggestion that the paper men work with the ink makers when producing a new paper so as to provide proper information to the printer.

He mentioned that electronic drying of inks is now being worked upon but that the process has not been perfected.

He suggested that after the war many magazines consisting regularly of around 200 pages would continue to use lightweight paper stocks. That is, the use of 40 lb. stock in place of 60 lb. stock which was used formerly will be continued indefinitely. For this reason he thought manufacturers must increase the opacity of the thinner papers to provide better printed appearance.

He assured his hearers that all ink manufacturers are ready and willing at all times to work on new problems brought up in the industry.

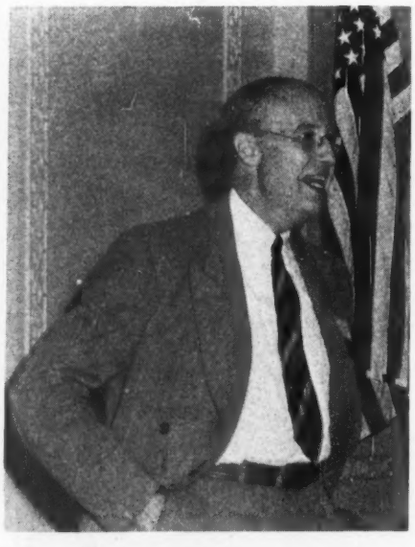
Synthetic Developments for Rollers and Blankets

David M. Rapport of Rapid Roller Co., discussed *Present and Postwar Commodities for the Lithographic Industry*. Mr. Rapport's address was from an engineering approach. In discussing the use of synthetic or alternative materials for making rollers and blankets, he stated some time is required after the introduction of something new before the printer will welcome it.

He exhibited a number of new products, some of which will not be available until after the war. One of these was a vibrator and distributor roller made from Lucite, clear as glass, hard as steel and guaranteed for life.

He showed a miniature synthetic insulated oscillating roller for use on 1, 2 or 4 color presses where some blue inks or other colors cause steel to strip. The roller is guaranteed for life and eliminates a lot of stripping on the press.

Next he exhibited what he called a dark colored precision synthetic distributor roller. It has a hard texture and is useful for from 10 to 15 years service.



Arthur Brooks, in speaking before the International Craftsmen's Convention at Niagara Falls, Ont., discussed adoption of the decimal system as the standard for specifying paper sizes and weights. Said he: ". . . 25x40 represents 1000 sq. in. Let's talk about 1000 sq. in." Mr. Brooks is Consultant, Printing and Publishing Div., WPB.

Another roller used for similar purposes is a little softer and will last for 10 to 12 years if kept clean.

He also discussed, for postwar purposes, a metal roller to be used without a damper, and an attachment for press control of moisture. This attachment will hold back moisture where it is not wanted.

Mr. Rapport exhibited a number of what appeared to be ordinary white fabric handkerchiefs. The material is made by Fibre Glass Mfg. Co. He stated it has enormous strength and will be used for making press blankets in the postwar period. The material is waterproof and fireproof. At present, it is being used for parachutes and for glider towing ropes.

New Use for Handcuffs

AT the close of his address before the recent Craftsmen's Letterpress Platemaking and Printing Clinic, Niagara Falls, L. W. Claybourn, executive vice president of the J. W. Clement Co., Buffalo, answered a number of questions from the floor. He spoke upon the subject "Scientific Methods in Letterpress Printing." A printing plant executive arose to ask: "How can you prevent a former cylinder pressman from making 'paper dolls' when getting ready to run a set of plates for a Cottrell - Claybourn press?"

Claybourn's laconic answer, promptly given, was: "Handcuff him!"

The speaker said that before the war there were only 11 blanket manufacturers in the world. At the present time there are only five and they are located in the United States.

He described blanket manufacture as a precision operation. Blankets must be plus or minus 0.0005 in. for the 0.064 in., 0.065 in. and 0.066 in. 3 ply-thickness. The facing is applied in 0.021 in. thickness on a spreading machine. From 26 to 28 hours and from 185 to 210 spreads are required to finish the coating application. The blankets then are hung up 36 hours for seasoning, after which they are powdered and placed face to face in a vulcanizer for 11 hours. Any little speck, dot or imperfection in the face means that the blanket must be thrown into the disposal furnace along with high manufacturing costs.

Claybourn Gives Stirring Address

ONE of the stirring addresses of the convention was that of L. W. Claybourn who has been before the Graphic Arts public for a quarter of a century preaching the idea of precision in printing operations. His name is con-

Clinic on Offset Platemaking and Printing produced considerable valuable technical information

1.—Ernest Jones, President, Graphic Arts Corporation of Ohio, presided as one of two co-chairmen. During the meeting he described his company's new bi-metal offset-lith plate which is grained and degrained electrolytically.

2.—R. Ernest Beadie, Fred'k H. Levey Co., Ltd., Montreal, participated in the offset clinic as co-chairman.

3.—"Every lithographic plant has its own system for adjusting and maintaining equipment. Some plants take the long way around to arrive at a fine sheet of finished work, while others do equally as well in a much shorter way. Fundamentally they are the same in a large as in a small plant."—So said Joseph Machell in his address on "Litho Pressroom Control and Production Problems." Mr. Machell is superintendent of Stecher-Traung Lithographic Corporation, Rochester, New York.

4.—Alexander Claire, Graphic Arts Division, Eastman Kodak Co., discussed his company's contact screen process. He is shown here explaining halftone dot formation.

5.—David Rapport, President, Rapid Roller Company, spoke at the clinic mostly from a new development engineering standpoint about rollers and blankets. Synthetic materials enter into the products he exhibited, particularly the fibre glass material for making offset blankets.

6.—". . . lithographic presses have been driven to the limit of their capacity since the outbreak of the war. Because of this extremely heavy wear and tear, much of this press equipment will be replaced by faster streamlined models," asserted Secretary Walter Soderstrom, Eastern Litho Association of New York.

nected with a precision method of making electrotypes known as "the Claybourn Process," and it is also connected with precision rotary sheet-fed presses marketed under the name of Cottrell-Claybourn. These presses are used at the plant of the J. W. Clement Company, at Buffalo, N. Y., of which Mr. Claybourn is executive vice president. The Clement plant is 100% rotary press operation.

Practicing What He Preached

Mr. Claybourn now frankly states in his public and private utterances that he went into the printing business to demonstrate that what he had been preaching while in the capacity of a manufacturer of electrotyping equipment and precision presses, could be worked out on a profitable basis in a properly equipped printing plant. He points to the Clement plant with its equipment of rotary presses as an example of what can be done to produce quality color work on a speed and precision basis with profit to the firm.

Exhibiting two large photos, he told the convention audience how printers waste time in locking-up forms with reglets and small pieces of furniture. One of the photos was of a form containing 32 pieces. Precision lockup with this multiplicity of material is impossible. In contrast he exhibited a photo of the same form locked with only five pieces. He described the method employed in his plant where lockup is done with precise pieces of steel furniture.

As much as eight small pages of type are electrotyped for precision purposes, in one plate, in the case of one color, or in as many separate plates as a color job requires. He declared with positiveness that electrotype plates must be precise and ready to print without much makeready when put on the press.

Send Plates to Pressroom To Be Printed From

"We send plates down to the pressroom from which to print, not to monkey with—we don't make plates in the pressroom," was one of Claybourn's remarks during his dynamic speech.

Good old Adam's ale was much in demand at Craftsmen's Niagara Falls Convention. Here the photographer snapped John C. Dabney, Sales Manager of Seybold Division, pouring water into the glass held by Vice President Harry A. Porter of Harris-Seybold-Potter Co.

When Robert D. Ross, deputy director of the printing and publishing division of WPB, Washington, D. C., was introduced as a guest speaker at the opening session of the convention at Niagara Falls, Canada, President Harvey Glover mentioned that Mr. Ross had just been married and was spending a brief honeymoon in Canada. That information caused reporters covering the convention to look for the "woman in the case" with the result that a photographer obtained a candid picture of the bride and groom.

The bride is the former Miss Alice Mahnke, of Chicago. Of trade interest is the fact that until several days before her marriage to Mr. Ross, she had been a paper buyer, a job which Mr. Ross held for six or seven years, until he quit to become connected with WPB. For a number of years, Miss Mahnke had been assistant to Mr. Ross in that job, and when he quit she was promoted to his former position. Their marriage took place in the Good Shepherd Evangelical Lutheran Church, in Berwyn, Illinois, Saturday, July 22, the Rev. Karl F. Lohrmann, officiating. Their residence will be at 1421 Massachusetts Ave., Washington, D. C.

Trade Press Editors Pose for Group Picture—Front row, left to right: MacD. Sinclair, *Printing Equipment Engineer;* Biruta Sesnan, *American Printer;* E. F. Trotter, *Printing.* Back row, left to right: A. G. Fegert, Free Lance Writer, Chicago; Edward D. Doe, *Printing.*

He said that in one case he permitted a pressman to work out his ideas of makeready on a particular color-process job. The pressman, like some others, wanted to interject his personality into the job. He insisted on creating all kinds of heights in the job when they didn't exist. After the pressman had spent a week on his "paper doll work", Claybourn called in a pressman who knew only about operation of Cottrell-Claybourn presses who did the job in one-sixth the time.

Mr. Claybourn showed the audience a specimen of excessive makeready which one of his pressmen had done before he adopted the simpler method based upon precision presses, precision rollers, precision electrotypes and precision lockup. Claybourn cited a color-process job which required twelve hours makeready under the old system. His staff put the job on the press with two hours makeready and by means of speedy rotary presses the whole run was off within six hours. He did not mention how many thousand of impressions were on the job.

"Letterpress is the best method of printing, is more flexible, and can be made to go faster by means of rotary presses than with presses employing the reciprocal motion," said Mr. Claybourn. "Postwar developments will bring a lot of new things into the letterpress field. In all of our operations we are shooting at the target of saving hours. In our electrotype plant, we don't pound plates as a blacksmith would do his pounding while shoeing a horse.. Our revisers—that's what we call finishers—are instructed to bring up every dot, so that it will print without makeready. Plates must be precise to print right."

Referring to the offset process, Mr. Claybourn said that a plate can be produced cheaper by offset. In short runs, offset has the advantage, but if the runs are long enough letterpress can overcome all costs."

The speaker feels that it is a responsibility of the paper manufacturer to get together with the ink manufacturer when a new paper is brought out so that the proper kind of ink for each paper will be known to the printer.

Composing Room Practice Clinic

SHORTAGE of manpower and the need for keeping up with production schedules, were problems discussed in the Composing Room Practice clinic with John Morrell of Montreal, and Joseph Thuringer of Rochester, as co-chairmen. One question related itself to conserving time of compositors. The questioner wanted to know how to induce customers to refrain from editing their copy after they had received galley proofs. One suggestion was to present a bill accompanied with all author's alterations on separate colored proofs so that the author and others associated with the customer's business might be

Pleasing the Lady Customer

AT the recent Niagara Falls (Ont.) International Craftsmen's convention, during the Shop Methods and Management Clinic, *Ray F. Brown, Production Manager of Hotel Peabody Print Shop, Memphis, Tenn., described operation of the plant which he supervises. He discussed the pains taken to please the hotel's customers, many of whom are women's groups who do their entertaining at the Peabody Hotels in Memphis.*

In one instance a fastidious woman who planned to entertain at the Peabody, wanted something special in the way of a souvenir menu card. She stipulated among other things that there was to be no printers' ink odor on the cards.

To overcome the printing ink odor objection, Mr. Brown purchased a quantity of Evening In Paris perfume at a department store. This he mixed with the ink. After the cards were printed, he had them placed in one of the hotel's laundry ovens to dry the perfumed ink. Mr. Brown reported the lady was pleased both with the job of printing and the scented card.

impressed with the costliness of such a careless practice.

Howard King, of York, Pa., told of the routine followed in his plant of pasting up signatures of 32 page proofs of typeset matter, properly spaced on galleys. He reported that this practice of showing proofs approximately as the finished job will appear saves handling make-up material in the event that the author decides to make changes from his original ideas. Finished proofs are subsequently shown.

The question of how much dependence should be placed upon a compositor to set display matter from manuscript copy indicated that in some places it is believed all compositors should be taught to be "typographical architects" as Oliver Watson, of Toronto, put it. Another view was expressed that a compositor should not be expected to be a designer, but a plant doing quality work should have a layout placed in the compositor's hands, on which layout is indicated exactly how the matter should be set and the type to be used.

In discussing the question concerning how to increase production during the labor shortage and also during normal times, several of the craftsmen told of routine practice employed in their respective shops of having everything—dummies, machine-set and other composition matter, leads, slugs, and all other material—within reach. In the case of book make-up, style sheets for every chapter should be on the truck with the material, the general idea being that the time of the compositor is too expensive for him to waste any of it walking around, even a few steps at a time, to get needed material or instructions.

Fitting copy and methods of determining how much space will be required in different faces of type brought out expression of ideas which included the suggestion by International President Walter Schultz that proofs of the first ten letters of an alphabet will give a fairly accurate guide as to space requirements of such type faces.

Another suggestion was that as new faces of type were installed, lines should be set and proofs should be pulled on specimen sheets which will indicate what the space requirements are. To get exact results, character count is necessary, according to the ideas expressed.

Carl Harner, composing room foreman, Egry Register Co., Dayton, O., explained that one composing room trick is to use golf ball tee as an indicator to Monotype material casters that replenishment of certain sorts are needed in the type cases. The top of the tee bears a number corresponding to the type case number and is inserted in a board which is inspected by the caster man each day.

One executive who took part in the discussion reported that as new compositors are employed by his firm they are given three days training to learn the special methods employed in that shop.

Noise in the Composing Room

Noises in and around the composing rooms came in for consideration. One man suggested that a composing room should be entirely away from pressrooms and from Monotype casting rooms. The discussion indicated that in a few shops, the composing rooms are segregated so that compositors will not be distracted by noises, while most of them are subject to noises from the pressrooms and from other sources. One man caused a laugh by pooh-poohing the idea that compositors should be distracted at all, and said that he knew of a composing room that had the radio going full blast while workers were doing their work. It was generally agreed that proofreaders should be protected from distraction caused by noises.

The effect of spray substances upon composing room machines was briefly discussed, it being reported that the residue of the substance used in the solution frequently clogs delicate mechanisms in typesetting equipment. In some instances, affected mechanisms must be replaced with new parts. One way to combat it, said one executive, was to provide strong air currents to prevent the spraying substance from reaching the composing room.

Thinner papers used because of limitation orders cause problems of showthrough, and the question was raised about choice of type faces for use on thin papers. Walter Schultz, of Dallas, suggested that heavy type and solids should be avoided as much as possible. Another executive demurred by saying that advertising agency men are not in the habit of considering internal plant problems when they design their advertisements.

Foreman Must Have Clear Cut Idea

Joseph Thuringer of Rochester, one of the co-chairmen, in summing up his ideas, said that to carry out planned production efficiently in the composing room and to eliminate guesswork on the part of workers, the foreman must himself have a clear-cut idea of what the finished job is to look like, and to see to it that intelligent instructions are passed on to all men working on the job.

Maintaining Executive Morale*

I THINK we shall make a serious error in years to come if we do not give more thought to developing precision men. Our men are first, should always be first. Let's keep morale high. One great detriment to good morale is the practice of by-passing the foreman or supervisor. By this, I mean that management personnel sometimes encourages employees to by-pass the foreman—to bring their grievances and problems directly to them, giving them favorable audience. Thus, respect for the foreman or group supervisor is lowered, discipline becomes a problem, and morale is thereby shattered. I try to impress on my men that the foreman is their boss and that he will, and can, help them. A foreman who is continually by-passed loses interest in his work and control over his group. Inharmony and disorder prevail. Production, both in quality and quantity, suffers. If a man cannot be given full responsibility for his operations and operators, he shouldn't be given the title of foreman.

*Abstracted from address by Alex J. Alberg, Manager of Printing, Unity School of Christianity, 917 Tracey St., Kansas City 6, Mo., before the International Craftsmen's convention, Niagara Falls, Ont., July 1944.

Plastic Duplicate Plates

AN extremely interesting discussion of *Plastic Duplicate Plates* was given on Tuesday afternoon, July 25, at the Letterpress Platemaking and Printing Clinic by Eugene Williamson, manager of Bakelite Corporation's Printing Materials Division. Plastic plates are produced only from a metal original, a pattern or a type form by molding together with heat application and pressure for the letterpress and publishing fields. The plates are made both for flatbed and rotary printing.

The Bakelite plate, stated Mr. Williamson, retains all the definition of the pattern up to 175 line screen; the plate weighs ⅛ as much as a metal plate of equal size. Said he: "This advantage is significant in high-speed rotary work and it is also important where plates are to be shipped or mailed."

Out of several regular commercial press test runs, Mr. Williamson stated that on a rotary press, the plates, which are molded of Vinylite resin compound, were removed after more than 300,000 impressions and were found to be in good condition, with wear characteristics comparable to electros which had been run with them.

The speaker stated that Bakelite has a new material which has not yet been introduced commercially, but which appears to have far greater durability than the product which the Corporation has been distributing. This new material will be available to platemakers shortly. "We have other new materials in the offing," he reported, which have far greater wear resistance and toughness than those now used. . . . You can expect prompt advances in materials and processing comparable with the rapid growth of the plastics industry generally." Bakelite expects to produce plate materials which will fill the requirements of the industry for both semi-resilient and hard plates, at lower cost, more durable and generally more economical than present metal plates.

The speaker exhibited a thermoplastic printing plate which he said was made from Bakelite's most recently developed material in considerably less than 20 min. He then exhibited the thermosetting matrix from which the printing plate was molded. He stated the matrix was practically a permanent pattern which can be stored away and brought out for molding new printing plates when needed. "This feature is of importance in the book-printing and paper-converting fields," he added.

How Plates Are Made

Mr. Williamson exhibited a number of slides by means of which he described the process of making both the mold (matrix) from which the duplicate plates are molded and the process of molding the actual printing plates from the matrix thus produced. The equipment, essentially, consists of three pieces of equipment—an oven, a hydraulic press and a chilling press.

The platemaking operations are as follows:

(1) Assuming for explanatory purposes that a duplicate plate is to be made from a photo-engraving, a thin coating of colloidal graphite in water solution is applied to the photo-engraving and polished until dry. This graphite coating promotes release of the photo-engraving from the phenolic resin matrix and is mainly a precautionary operation.

(2) The photo-engraving is placed on the apron of the hydraulic press. Bearers of the proper height at either side of the apron control the impression of the photo-engraving into the matrix sheet by stopping the close of the press when the desired pressure has been reached.

(3) The operator then places a matrix sheet containing Bakelite phenolic resin upon the photo-engraving preparatory to molding the matrix. This sheet extends ½ in. or more beyond the photo-engraving on all sides.

(4) The apron of the press is now retracted under the platen of the hydraulic press and the press is closed for slight pressure. This thermosetting phenolic resin sheet tends to first soften and then harden under continued application of heat. Once the matrix has hardened it is impossible to soften it again.

Thus, the matrix becomes a permanent mold or negative. The 30 sec. dwell of the hydraulic press under pressure softens the phenolic resin sheet. After the 30 sec. softening period, the operator increases the pressure until the bearers are tight against the platen. The press is now held in this closed position for 9 min. The additional application of heat causes the resins in the matrix material to polymerize or harden. After this, the press is opened and the photo-engraving is sepa-

(*Continued on Page 44*)

Personalities in Attendance at International Craftsmen's Silver Anniversary Convention, Niagara Falls, Ontario, July 1944

1.—A group of members of the Cleveland Craftsmen's Club, left to right: E. T. Samuel, Superintendent, A. S. Gilman, Inc.; Wm. J. Schneider, Pressroom Foreman, William Feather Printing Co.; M. L. Abrams, President, M. L. Abrams Printing Machinery Co.; F. L. Kreutz, representative, Metals Refining Co.; Wayne Gasper, Superintendent, R. E. May, Inc.; Earl Boner, Superintendent, Chandler & Price Printing Dept., and President of Cleveland Craftsmen's Club; Joe Patterson, F. P. Rosback Co., Benton Harbor, Mich., who retains membership in Cleveland Club.

2.—(Facing camera): Herman Slater, Pressroom Foreman, The McBee Co., Athens, O.; Clayton E. Jones, Paper Merchants, Inc., Toledo, O.; Dean Sage, Mechanical Superintendent, the Blade Printing & Paper Co., Toledo, O.; at extreme right, guzzling coffee at Fifth District Conference breakfast, is John Reay, Vice President, The Braden-Sutphin Ink Co., Columbus, O.

3.—Wonder of wonders—Oakes, Sachs and Trapp agree upon things in general at convention. Starting at left Past President Fred Hagan, Workman Mfg. Co., Chicago, bestows blessing upon trio consisting of Gradie Oakes, President, Process Color Plate Co., Chicago; Harry Sachs, Baltimore Club's Secretary, and Charles Trapp, long active in New York Craftsmen's Club.

4.—Charles F. King, Lithographic Technical Foundation, New York; Charles R. Conquergood, President, Canada Printing Ink Co., Toronto; Wade E. Griswold, Executive Director, Lithographic Technical Foundation, New York.

5.—C. S. Davis, Lake Erie Engineering Corp., Buffalo, N. Y.; Stephen Harrington, Asst. to President, Brown & Bigelow, St. Paul, Minn.

6.—Martin Taylor, Chicago Craftsmen's Club; D. M. Rapport, President, Rapid Roller Co.; George Greenberger, Superintendent, J. W. Clement Co., Buffalo, N. Y.; Waldo Bass, Ideal Roller & Mfg. Co., New York.

7.—Jack K. Danbury, Secretary, Atlanta (Ga.) Craftsmen's Club; George Ortleb, Federated Metals Div., American Smelting & Refining Co.; Clarence Ritter, Pressroom Superintendent, Printing Div. of Plough, Inc., Memphis, Tenn.; Stephen J. Bresk, Barnett Printing & Stationery Co., Houston, Tex.

8.—Perry R. Long, First International President, and Fred J. Hagan, Past International President.

9.—Pearl Oldt, Grand Rapids (Mich.) Craftsmen's Club, and daughter Dorothy at banquet.

10.—Herbert Arnstein, Asst. Production Mgr., Millprint, Inc., Milwaukee, Wis.; Ollie Watson, Production Manager, Brigdens, Ltd., Toronto, and Past International President; M. L. Gebhart, New Products Div., Minnesota Mining & Mfg. Co.

11.—At the request of President Harvey Glover, Past International President Perry R. Long presents beautiful bouquet of flowers to Mrs. Charles R. Conquergood of the Hostess Committee, for her work arranging for the entertainment of the visiting ladies. Other members of the Ladies' Committee were Mrs. Harvey Glover and Mrs. Edward Patton. A bouquet was also presented to Mrs. Patton by Past International President Eric O'Connor of Montreal.

12.—Anthony J. Math, President, Sinclair & Valentine Co., and Russell Hogan, Plant Manager, the Blanchard Press, New York.

1
2
3
4
5
6
7
8
9
10
11
12

Diagrammatic cross-section view of High-Etch Offset-Lith plate showing relief characteristics of the plate. Once used for high-etch, the plate cannot be used for any other job. The printing image, of course, is in positive.

High-Etch Offset Plates—

Something about their utility, technique employed in making them, and methods used on the press

By ADAM HENRI REISER

CONSIDERABLE interest is being displayed in the proposal to print thin typographic or relief plates on rotary printing presses. One proponent believes this to be the solution to methods in competitive fields.

A similar plate has been in use in the offset-lith field for more than 25 years. There, too, the plates were an answer to a specific problem. Bank check and other stationery carry security or safety tints to prevent alteration. But the inks used were soluble in water and the offset press used a dampening system. How did they overcome that?

In solving the problem, their reasoning was different from that of the asylum inmate who sighted the sun with a telescope, then used a stick to get a shadow indication, and then with slide rule, dividers, calculus and trigonometry, he got the time of the day. When asked how he got the time at night, he pointed to his watch.

There is a similarity between the proposed typographic plate and the so-called high-etch or relief offset-lith plate. Both plates carry the work in relief and both are printed dry. That is to say no water motion is used in the offset press. There is a difference in that the offset-lith high-etch plate is only etched approx. from 0.005 in. to 0.008 in. above the lowest point. The image on the typographic plate is unreadable as compared to the readable image on the offset-lith plate—necessary because of the double transfer.

The high-etch method provides a press-plate for a highly specialized form of work. Plates of the high-etch method are definitely longer-lived than the ordinary planographic or even the deep-etch plate. The high-etch plate is limited in its application, being used to produce only a very small portion of the entire lithographic production in the field. Unit costs are greater per plate not only because of the added steps in production, but also because once used for high-etch the metal cannot be used for any other job. Running costs per plate are also greater than those for the ordinary plate because of the added precautions and operations. The plates have their use in the bank stationery security—tint field and others where unusually long runs are the rule. U. S. Revenue stamps, for illustration, are run from such plates.

Work Preparation

How is this high-etch or relief plate produced? Is the image hand-transferred, or can it be produced any other way?

Photographic reproduction of High-Etch Offset-Lith line plate (enlarged approx. 1¾ X). This particular zinc plate was 0.015 in. thick. Etching depth was approx. 0.009 in. High-Etch plates have their uses in the bank stationery security-tint field and others where unusually long runs are the rule. U. S. Revenue stamps are run from such plates.

Any of the accepted offset-lith methods may be employed to produce the work or image on the press-plate. Hand-transferring was employed at the outset, and is still being used in some instances. With the development of photo-lithography and its light-sensitive coatings, albumin-dichromate became popular, the coating being exposed under a negative to get the desired result. However, a much sharper and better result is achieved with the use of glue-dichromate or gum-dichromate when exposed under a positive using the positive-reversal process.

With the popularity of zinc in offset-lith work it was only natural that the metal be used in high-etch especially with zinc's low resistance to nitric acid. Originally the work was put to zinc plates 0.027 in. thick. Of late, however, relief plates for offset-lith are produced on metal as thin as 0.015 in. But it is best not to go thinner than this or the metal will crack or break too easily. A finer grain is used on these plates than that used for regular work, the grain's only function being to hold the work on the plate up to the etching operation.

Manipulation of the Plate

After the image is on the plate, it is rolled up with a good acid resisting ink such as Fuchs & Lang etching ink. Dragon's blood powder is applied after the work has received a good layer of ink, the plate being well dusted to remove the excess of powder.

Gradual application of heat through the back of the plate follows until the powder amalgamates with the ink. Visual evidence of sufficient heat application appears in the shiny, dark appearance of the powdered ink as it becomes an acid-resistant mass. Care must be taken against overheating, as too great heat application will run the ink and form a messy, hairy mass.

Following heat treatment, the plate is permitted to cool off. Then those parts of the front and back requiring no etching outside the work areas, are thoroughly painted with asphaltum. In this operation an outline is usually drawn about ¼ in. away from the work, the asphaltum being painted outside the line. This provides a margin of safety for the pressman when he cuts away the underlay beneath the blanket in his move to get clean paper in the non-work areas. When the plate has been painted with asphaltum and has been well dried, it is ready for the etching operation.

Etching Away Non-Work Areas

By use of a rocker, really a movable trough, the acid is kept in motion over the surface of the plate. In addition to rocking the plate in the acid, it is also good policy to brush over the work with a camel's hair brush every five minutes or so. This frees the plate of the scum that usually accumulates during etching.

Nitric acid is the active ingredient in the acid bath. Either one of two successful formulae may be used. The slow

or weakest solution ordinarily applied for 25 min., follows:

24 oz. C.P. Nitric Acid
32 oz. Gum Arabic Solution
416 oz. Water

Some favor the following faster solution which requires but 12 to 15 min. etching time:

1¼ oz. C.P. Nitric Acid
1¼ oz. Gum Arabic Solution
7 oz. Water

Fresh acid should always be used with each plate, as the solution loses strength at each etch, and uncertain results will obtain from using starved acid. Extreme caution must be observed during the actual etching operation as it is highly dangerous to inhale the fumes arising out of the chemical reaction set up by this operation.

After the etch, the plate is washed well under running water, dried rapidly with news stock and the asphaltum washed off with turps or benzole. A good chromic acid etch follows, after which the plate is washed well, dried again and is then ready for the press.

Printing The Press-Plate

No asphalt or other grease-receptive base is necessary on these plates because the inkers roll over the top of the work, inking everything that lies in the same plane with them. Thus any metal not removed from the surface by the etch, will be inked and thus appear in the print.

The most economical manner of printing the security tint is to use an all-over tint so that no blank parts show at all on the sheet. But how about labels and other forms of work where large areas of blank paper are to appear on the finished product? How are they handled? How about the stub part of the check where no security tint is needed? But let's consider the following before answering.

No Water Motion Used on Press

In offset-lith printing the relief or high-etch plate, no water motion is used. For this reason the method of printing is sometimes referred to as "dry printing". Without dampers contacting the press-plate, and without their chemical cleaning action, everything that lies in the plane of the upper surface of the press-plate will print. Theoretically, this is true. But as a matter of actual fact, the inkers travelling at high speeds, combined with the material necessarily used in their construction, really do feed ink to the broad, non-work areas of the cuts or depressions, through their whip action. Metal is therefore left in those broad, non-work areas, using them as bearers for the rollers. This minimizes the whip action of the rollers.

Experience has also taught that shallow areas created by a shallow etch, permit the rollers to deposit ink in those shallow depths. Therefore, a double etch is sometimes resorted to. In that case, greater depth is obtained by coating the work areas with asphaltum after the first etch and then subjecting the plate to another bite.

The mechanics of offset-lith printing are also worthy of review. Three cylinders are found in the offset press. The top carries the press-plate, while the blanket cylinder with its blanket, contacts the plate, taking its impression from it. An impression cylinder carries the sheet of paper or stock to the blanket cylinder, the transfer of the print occurring between the letter two cylinders. Thus the print is offset to the paper.

Before anyone ever heard of high-etch plates, offset-lith pressmen were circumventing their troubles in some instances by cutting away from underneath the blanket, the backing or packing or underlay. The three terms are used interchangeably to identify the sheet or sheets used to bring the blanket cylinder up to the proper dimension. Three points of overpressure are employed in this packing. Removing three to five points under the blanket will result in no impression on the paper. Cutting away this packing in selected spots will thus remove any chance of a print in this spot, for there will be no pressure exerted there. Wrinkles can be avoided by this dodge in printing green paper. Combination jobs can be printed from one plate, printing first then one part and then any other simply by using the knife judiciously on the underlay, cutting away first one section then the other beneath the work. This dodge can also be used to avoid printing poor spots on the plate without polishing them off, or in some cases where their removal entails a great deal of work.

Cutting away the underlay can be accomplished by lifting the blanket, and removing the packing beneath after marking the packing position on the cylinder to insure its certain return to the same spot. Various means may be employed to establish the relative position of the work on the underlay. It is then possible to cut away the underlay accurately to within ¼ in. of the work, the distance that is ordinarily allowed for clearance.

Other methods may also be employed to stop printing such as routing out the dead metal, or cutting away the top layer of the rubber blanket, or even cutting away parts of the roller material, much in the manner used in multi-color work.

Accuracy in Operations Essential to Success

If the one thought were to be listed that would spell success in high-etch work, it would undoubtedly be accuracy. Accuracy is required in setting rollers; in setting pressure; and in all the other operations of preparing and etching the image.

Smooth rollers will be found most satisfactory on the high-etch plate, whether they be made of rubber, synthetics, leather or other material such as the Ideal type of rollers. But they must be set so that there is barely a perceptible nudge as the rollers leave the gap to ride the plate.

Water is used to wash up the plate and press following the run with security inks, using a hard brush for scrubbing if

REAL CRAFTSMANSHIP — Inspecting a ruled form after Plant Management Clinic to determine most economical way in which to produce the composition. Left to right: C. K. O'Bevan, Chicago Craftsmen's Club; Ken Chapin, Composing Room Foreman, The Monthly Record Pub. Co., Pittsburgh; Joseph Ottersbach, Buxton & Skinner Printing and Stationery Co., St. Louis, Mo.; Carl Dyer, Secretary-Treasurer, St. Louis Craftsmen's Club; Edward T. Samuel, Superintendent, A. S. Gilman, Inc., Cleveland.

necessary. This is followed with a final washup of aniline solvent. Should regular offset ink be used in the run, however, regular washup methods obtain.

The plates of high-etch production take their place beside those produced by other means in offset-lithography. It provides them with another able tool which to turn out work efficiently for their customers. It is necessary, of course, to examine the job and then determine the method to be employed in its production.

We are indebted to Charles Grogan, James Haight and Harry Brown for their help in preparing this article.

Research Program for offset-lith industry accelerated by appointment of executive director

AT the semi-annual meeting of the Board of Directors of the Lithographic Technical Foundation, approval of a program of expanded research and education for the lithographic industry occurred. Included in the Board's action was appointment of Wade E. Griswold as full-time executive director.

WADE E. GRISWOLD

After 20 years' experience with organized research, the Lithographic Technical Foundation currently is engaged in developing an expanded research program for the lithographic printing industry. The services of a full-time Executive Director, Wade E. Griswold, has been announced.

Mr. Griswold was educated at St. John's Military Academy and at the U. S. Naval Academy. After eight years' service in the U. S. Navy, he completed a year's work in economics, English and languages at the University of California and followed this with a year at the Columbia School of Journalism. Since then, Griswold has had wide experience in practical business. In addition to an always-avid interest in all accepted methods of reproduction, he has been engaged at various times in editorial writing and illustrating, organized and operated his own reproduction plant, engaged in market, editorial and advertising research and production analysis, and in important administrative tasks.

He has developed personally a number of new methods, ideas and processes that have furthered production and quality in the reproduction fields. Among other things, he made a broad study of color photography some time ago, examined over 2000 patents and personally produced practical work in all four-color photographic methods. At various times prior to the war, he made studies of reproduction facilities and techniques in Europe.

It is difficult to tell in limited space the complete story of the 20-year course of the Foundation's career. Originally formed and endowed in 1924, total funds subscribed by the industry amounted to over a million dollars. Expenses over this span of twenty years have involved $283,556.92 for research operations, with a depreciation on equipment of $2,594.15. However, a return in the form of royalties for research materials and processes has brought back $39,346.60 of this amount, to make total expenditures for research $246,804.47.

A fairly authentic gross annual volume estimate of the lithographic industry is now rated at over $300,000,000. In the past few years the industry's annual take has increased considerably from $250,000,000.

Lately, the Foundation has been engaged in formulating and developing an expanded research program, which it is reported, is to be backed by a fund amounting to upwards of a million dollars. The Board of Directors has issued a ten-point program considered necessary to development of the expanded research program. The Board has been revitalized, officers and directors will be rotated through limited terms, a full-time executive director has been engaged, a new fiscal policy has been adopted whereby the Foundation's investments and their handling will be placed in the hands of a competent and recognized fiscal agent, and periodic reports will be issued to show distribution of expenditures together with a complete accounting of Foundation affairs. One of the important decisions of the Board is that it is proposed to establish a Service Department in connection with the research laboratory. The proposed department will be staffed by expert field men who will work on individual plant problems. These experts will take back with them specific service problems for laboratory research.

WPB Note

L-240 Restrictions Will Be Enforced

STRICT measures to enforce print-paper restrictions under Newspaper Order L-240, including criminal prosecution for willful violations, have been unanimously recommended by the War Production Board Newspaper Publishers' Industry Advisory Committee, Arthur R. Treanor, Government presiding officer, reported.

Each case of non-compliance reported to the WPB Compliance Division by the Printing and Publishing Division will be investigated immediately, WPB officials said, and the Printing and Publishing Division will be consulted throughout such investigation.

Further recommendations were that no violations be forgiven without the consent of the Printing and Publishing Division and that no violators receive grants of extra-quota tonnage to make up losses suffered as a result of penalties. Prompt repayment of all newsprint used illegally should be made by a reduction of paper quotas in the succeeding quarter, whether the violation was willful or not, the committee said.

A special subcommittee disclosed that there had been a few flagrant violations of Order L-240, and that they constituted a serious threat to the successful operation of the limitation order.

Isolating The Commercial Composing Room

DURING the discussion period at the Composing Room Practice Clinic Craftsmen's International Convention, Niagara Falls, Ont., the latter part of July, the question arose as to the necessity of partitioning off the composing room from the pressroom in small and medium size plants. The discussion was provoked by the complaint that spray gun residue and pressroom noises interfered with and reduced composing room efficiency. A Canadian printing plant executive suggested that not only should the composing room be partitioned off from the pressroom, but the air pressure in the composing room should be raised slightly by ventilating apparatus. He asserted that when a partition is erected it is impossible to close up all chinks perfectly and as a result spray gun residue filters into the composing room. To remedy this, he suggested installing suitable ventilating apparatus to raise the air pressure and thus prevent the spray gun solution residue from entering chinks and crevices between the partition and wall or ceiling.

16 Gauge Zinc and Copper Preferred

A RATHER interesting summary of the attitude of users of zinc and copper photo-engraving plate stock was obtained recently by Atlantic Zinc Works from questionnaires sent to the trade. The purpose of the questionnaire primarily was to determine the intention of photo-engravers and newspapers with respect to the gauge thickness of plate stock they will use after restrictions have been removed.

It has been recognized by the trade that the use of three different gauges for zinc and two gauges for copper have proved to be a source of confusion to printers, electrotypers, stereotypers and consequently engravers themselves, all of whom are obliged to adjust bases and gauges of the engraving metal itself to conform with the desires of customers and because of physical difficulties in mounting and handling the thinner gauges of plate stock. While no statement respecting the number of questionnaires sent to the industry is mentioned, W. Roy Manny, president of Atlantic Zinc Works and Rolled Plate Metal Co., reports that replies were received from over 37% of those to whom the questionnaire was sent.

The tabulation of the replies received is as follows:

Zinc

89.1% stated they prefer to use 16 ga. zinc entirely.
4.5% stated they will use 18 ga. zinc.
4.0% stated they will use a combination of 18 ga. and 16 ga. zinc.
2.4% stated they will use 16 ga., 18 ga. and 21 ga.

Copper

92.5% intend to use only 16 ga. copper.
4.5% will use 18 ga. copper.
3.0% will use a combination of 16 ga. and 18 ga. copper.

Even though the total number of questionnaires sent out by Atlantic Zinc Works is not indicated, yet the 37% return shows that the subject of plate gauges is close to the hearts of users. In the questionnaire it was also asked what sizes in addition to the standard sizes would be required by photo-engravers. Approx. 6% indicated they would use anything except standard size sheets.

Thus, it would seem that in the replies received, the photo-engraving industry as a whole desires to return to the use of 16 ga. for both copper and zinc.

Hartman Submits Report

FRED J. HARTMAN, Educational Director, has submitted his ninth annual report to the National Graphic Arts Educational Association. In the report, Mr. Hartman states that for the third successive year, the Association has limited its activities to those that would best serve a wartime program of education by maintaining a foundation program of Graphic Arts education.

The sponsoring of Printing Education week was successful. A new student activity was the launching of the National Junior Benjamin Franklin Society. Some 30 local societies were organized in various parts of the country.

Director Hartman dwells at some length upon the completion of a basic course of study in printing that can be adapted both to wartime and particularly postwar printing instruction. Many requests have been received for new schools of printing. The new basic course in its present outline form was prepared by Principal Allan Robinson of Ottmar Mergenthaler School of Printing, Baltimore. The first two parts are related to Fundamentals in Composing Room Work and Presswork. The present outline is being expanded to include machine composition, photo-lithography and advertising art.

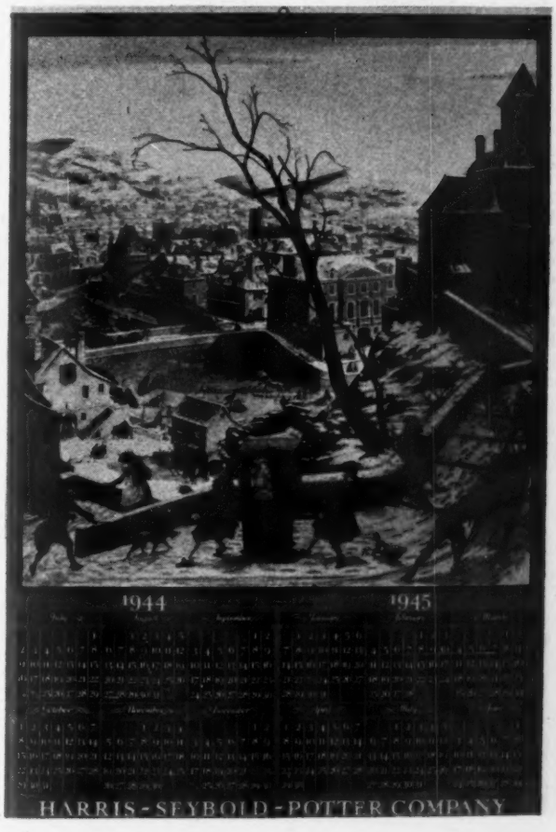
Another contribution in standardizing study courses in high schools is entitled "Graphic Arts on the Industrial Arts Level for Junior High Schools." This was prepared for the Board of Education for use in New York High Schools and submitted to the Director for approval.

Four educational contests were part of the Association's activities. These are designed to enhance the interests of high school students in the Graphic Arts.

In conforming with Government limitation orders, the Association's regular publications were reduced in number and size. Director Hartman states, however, "But there has been no let-down in quality of publications. A new activity called "Newspaper Emblem Contest," was introduced this year.

The Director makes the suggestion that the time has come for the Association to undertake a program of Educational Research it has developed through the years but has never been able to give a fair trial. The suggestion is made that the Association plan to issue as a monthly Graphic Arts Index of the leading articles appearing in the printing journals. Compilation of the Graphic Arts Index was started in 1931. Just recently, the Association furnished a number of these monthly indexes to the Craftsmen's movement to be used in connection with the compilation of their annual Periodical Index.

In observing that the Association has carried on during the past nine years with a pitifully low budget, the Director makes an appeal for adequate financing for what is now a foundation program of Graphic Arts education. No suggestion is offered, however, as to how the program is to be financed. Mr. Hartman expresses his appreciation to the Association for the support given by the National Printing Equipment Association, the United Typothetae of America, International Printing Ink, a loyal group of industry sponsors, paper manufacturers, individual printing firms and the trade press.



Harris Mid-Year Calendar—The 1944-45 Harris Mid-Year Calendar has been published by Harris-Seybold-Potter. The calendar is approximately 24 in. by 36 in. size and was done in four-color offset by Rogers-Kellogg-Stillson, New York, N. Y. The months July 1944 through June 1945 are shown in the calendar. A descriptive caption informs you that the artist, T. M. Clelland, has chosen to return to a romantic form and treatment of an eighteenth century scene depicting the simple theme of Winter. The scene, which might have been in northern France, is purely imaginary. Clelland's effort to secure contrast between light and shadow is most effective.

Counting System provides means for composing most any Intertype-Linotype matrix face from 5 pt. to 14 pt. on Teletypesetter Multiface Keyboard Tape Perforater

UP until recently, operation of the Teletypesetter Keyboard Tape Perforator has been limited in use to certain matrix faces especially adapted for the purpose by the line-composing machine matrix manufacturers. Now, however, Teletypesetter has announced a new type of perforator which will handle and count most of the standard matrix fonts made by Intertype and Linotype for book and job work.

The first style tape perforator was limited in operation to the matrix widths furnished in accordance with a unit system of set-widths. This was designated as a "5 to 18" unit counting range. The quad size of a given font was divided into 18ths and all characters in a font had to be a fractional 18th of the quad size.

In the new perforator or tape punching unit, Teletypesetter has increased the span of the unit counting system from a 5-18 to a 5-32 unit counting range. This is accomplished through the introduction of a readily removable self-contained counting code lever unit.

The new counting system spans a proportion of the thickest to the thinnest character widths up to a ratio of 6.4 to 1, as compared to the previous maximum counting ratio of 3.6 to 1. A general survey of a considerable number of type faces, ranging in point sizes from 5 pt. to 12 pt. or 14 pt., indicates that the fonts can be spanned by such a maximum ratio. By increasing the possible number of units from 14 to 28, the dimensional spread between consecutive unit values within the range is proportionately decreased, that is, the variation between each particular non-unit brass size and the nearest unit size, which in turn decreases the maximum counting error for each character.

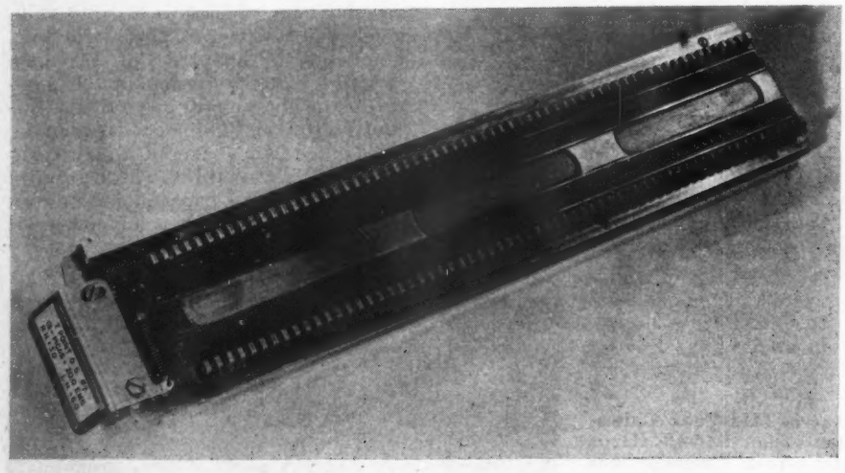
One of the major improvements in the development of the new Teletypesetter tape perforator is an easily removable, self-contained counting code lever unit. This unit is designed so that when changing from one type face to another, it is slid out of the perforator base to replace it with a similar unit provided with a different arrangement of counting code levers.

In the process of developing this removable unit a number of refinements have also been made to reduce the maximum possible mathematical variety of counting code levers from 785 to 32. This effects a considerable reduction in the number of counting code levers it would otherwise be necessary to stock along with a battery of tape perforators.

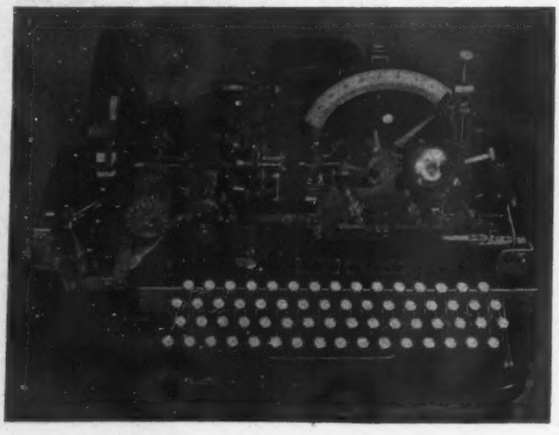
The standard speed of this tape perforator is 900 operations per minute, or 150 words. This is in excess of the needs of even the most speedy operators.

Other improvements in the design of the perforator consist of a rearrangement and simplification of the adjustable spaceband mechanism. Another new feature permits reading the indicator scale in terms of *pica* ems instead of ems of the point size being set. The method of setting the keyboard measure is also further simplified.

As has been stated above, the new Teletypesetter tape perforator is designed to handle the large variety of work encountered in the book and job field, such as books and magazines, in type faces ranging from 5 pt. up to 12 pt. or 14 pt.



This is a top view (showing numbered slots for blades) of the interchangeable counting magazine for Teletypesetter Multiface Keyboard Tape Perforator. This magazine is readily removed and another replaced in 15 sec. time. In developing this removable unit, a number of refinements have been made to reduce the maximum possible mathematical variety of counting code levers from 785 to 32. This effects a considerable reduction in the number of counting code levers it would otherwise be necessary to stock along with a battery of keyboard tape perforators.



View of Teletypesetter Multiface Keyboard Tape Perforator with cover removed. Through this keyboard, together with a new unit counting system, and a quickly interchangeable self - contained counting code lever unit, it is now possible to handle most of the standard matrix fonts made by Intertype and Linotype, in a range from 5 pt. up to and including 12 pt. or 14 pt. for book and magazine work.

51st Annual Monotype Report

President Harvey D. Best, of Lanston Monotype Machine Co., has submitted to stockholders the fifty-first annual report for the fiscal year ended February 29, 1944.

After taxes amounting to $404,591.71, and also after setting up a contingent reserve of $200,000 from the operations of the company for the fiscal year, net earnings amounted to $237,694.47, or $4.67 per share, against $2.32 per share (after contingent reserve of $100,000) for the previous year. Dividends of $2 per share were paid. Taxes for the year amounted to $7.94 per share, an increase of $3.66 per share over the previous year.

Total of reserve for contingencies is now $384,869.20.

The company has been engaged heavily in war work. This work has been practically all highly precision machining and intricate assembly. As the company's contribution to the critical copper recovery program of WPB, Monotype users have turned in for delivery to the Copper Conservation Committee a large number of used matrices containing 80% pure copper. As a further contribution the company has scrapped some 400,000 new matrices from stock and also turned in more than 6000 lbs. of pure copper.

Fig. 1.—Fluorescent lighting installation at the Worcester (Mass.) *Telegram-Gazette*. This installation comprises 58 twenty-watt and 36 forty-watt fluorescent mazda lamps mounted in trough-type units. The fixtures are mounted 36 in. directly above working area and give 100 footcandles on the imposing tables.

Some examples of

FLUORESCENT LIGHTING

in printing plants

By FRANCIS A. WESTBROOK*

**Mechanical Engineer, Benson, Vermont.* (*Photographs courtesy of General Electric Co., and Westinghouse Electric & Mfg. Co.*)

REALLY good lighting is probably nowhere more important than in printing plants, at least in those departments where work is done on type and other technical operations. These operations are certainly as exacting as any with respect to lighting, and as some concerns have approached their lighting in a modern manner it is of practical interest to see how they did it. Many will be relighting after the war.

It is believed that the lighting shown in Figs. 1 and 2 is representative of the sort of relighting jobs we will have in the post-war period when high priorities will not be a deterrent to such modernization activities. This view shows the effect of properly installed fluorescent lighting. The fluorescent reflectors mounted 36 in. directly above the working area and provide 100 footcandles on the imposing tables. Fig. 1 shows the installation at the Worcester (Mass.) *Telegram-Gazette* and consists of 58 twenty-watt and 36 forty-watt fluorescent Mazda lamps in trough units.

In another modern installation the illumination level is high and yet this is obtained with comfort for the workers because of the low radiant heat per footcandle of the fluorescent lamps. This is, in most cases, only about one-fifth as great as the radiant heat per footcandle with tungsten filament lamps.

One of the other great advantages of fluorescent lighting for print shops is the comparatively large area of the source of light which this system furnishes. Typesetting is much simplified when done under such large areas of source of light, which should always be used when illuminating this kind of work. This is true because the useful light on the work is an image of the lighting reflector and the larger this image is the greater will be the illuminated area where the typesetting is done. (See diagram Fig. 2.) Thus if the whole galley is to be lighted the luminous source must be considerably larger than the galley or form. The sketch shows why this is true. Small area lighting units do not cover the work areas adequately, while in Fig. 1 it is apparent that the large area fluorescent reflectors immerasurably improve this condition. The theoretical ideal would be to have the whole ceiling luminous, but with a proper arrangement of large area reflectors this condition can be sufficiently well approximated, and at a cost within economic reason.

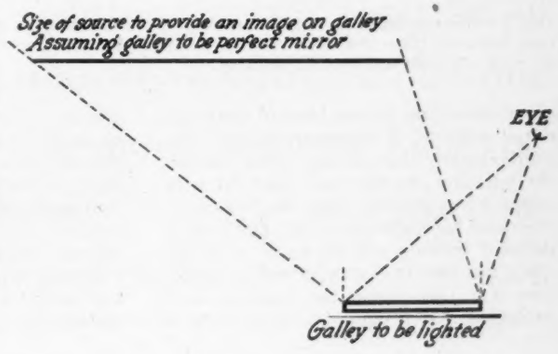


Fig. 2. — The luminous source must be considerably larger than the luminous area of its image. While this sketch is in one dimension only, it is equally true in both dimensions of the galley. Since the galley is not actually a perfect mirror, but has some diffuse reflection properties, a somewhat smaller light source does essentially the same job. However, it must be appreciably larger than the galley itself.

A pre-war fluorescent lighting installation is in the plant of the J. B. Lyon Printing Company, Albany, N. Y. In the composing room, the lights are mounted 30 in. above the make-up tables and 32 in. above the composing tables, there being some 130 units. The lighting units in this case are smaller, this being an older job. The results are probably not as good as in the first mentioned instance but, even so, they are considerably superior to the lighting in the average printing plant. In this connection it may be well to point out whereas a comparatively small deep half-shade reflector with bulb may provide sufficient localized lighting for a machine tool, for instance, like the small space surrounding the point of contact of a cutting tool, it is entirely inadequate, according to modern standards, for properly illuminating the greater work area on a composing or make-up table.

A logical point to bear in mind is that when an investment in the thousands is made for up-to-date printing equipment it is very poor economy not to have a correspondingly good lighting installation for the sake of saving an insignificant number of dollars in comparison to the cost of the whole job. Such uneconomical savings are sure to result in a needless impairment of efficiency of an otherwise first class set-up which cost a lot of money.

Another kind of work which can be done efficiently under fluorescent fixtures is wax molding, or wax engraving. The lighting arrangement at the Munger Electrotype Company in Bridgeport, Conn., is shown in Fig. 3. It will be noted that the lamps are relatively low, that the reflectors are fairly wide and that they are about as long as the layout of work in front of each operator, thus covering it completely. There are two 20 w. lamps per reflector, which is a remarkably low wattage, as is characteristic of this type of lighting.

Some of the other reasons why fluorescent lighting installed in this way does a good job in wax engraving operations are worth consideration, as the principles involved are likely to be applicable in

Joe Bloe's Latest Note Book Leaf

By WILLIAM WYATT WARFEL

Get the facts.
Correlate, then use the facts.
Stick to the facts - let the chips fall where they may.
Do an honest job and sell it.
Keep your eye on the ball.
Be yourself.

Fig. 3.—Wax molding or wax engraving operations can be done efficiently under fluorescent fixtures. Here is shown view in plant of Munger Electrotype Co., Bridgeport, Conn. In each reflector are two 20 w. tubes.

other situations. In this kind of work the detail consists of shadows so that the more shadow there is the better will be the visibility. At the same time the wax surfaces are glossy enough to cause undesirable highlights, or glare. Indirect or diffused lighting will do away with the glare but also spoils the necessary shadows. For this reason the lighting is so arranged that it comes from in front of the operator from a large diffused source at an angle of 45 degrees. This prevents the operator from getting into his own light, provides for a good shadow effect and avoids glare. This is why the fluorescent reflectors are mounted low and well in front of the operators, not directly over the work. Good light diffusion is of course one of the well-known characteristics of fluorescent lighting.

LETTERS

TO THE EDITOR

Surplus Machinery for Rehabilitation Training

IN reading many articles concerning the subject of what to do with government printing machinery after the war, none has struck home as much as the ways and means of distributing these various pieces of printing machinery expounded by Hon. A. E. Geigengack, United States Public Printer.

After this war has ended, there will be many soldiers who are going to need rehabilitation. Regardless of what vocation they pursued in civilian life, their wounds may be of such nature that printing, as a rehabilitation vocation, may serve their exact needs. Hence, the subject of surplus printing machinery could play an important part in this reestablishment of the wounded soldier's rehabilitation.

Strategically located throughout the United States are Printing Vocational Schools, set up to teach students who not only study the art of printing, but also who take related subjects, such as English, art work, engraving, etc. I would like to ask Mr. Geigengack, through *Printing Equipment Engineer* if it would be possible for the United States Government to place this surplus printing machinery in these vocational schools, with the thought in mind that a soldier returning from the war could be enrolled in one of these schools near his home, and the government, at the same time, reimbursing him while he is trying to master the trade?

Vocational schools are set up to teach. That is their primary aim. It is not the aim of a vocational school to do any kind of work that would injure private business, or interfere with any commercial printer engaged in the printing business. If Vocational Printing Offices throughout the United States can be of service to returning veterans, I believe this will act as a boomerang to employing printers who are now hard pressed with the lack of skilled and artful printers in the trade.

Reams General Hospital is established in Palm Beach. It is a beautiful place, well landscaped, shaded by palm trees, breezes from the Atlantic Ocean, an ideal recuperating center for our returned wounded soldiers. What prompted me to write this article was, one day, as I looked up from my work, I was confronted with a sergeant and a private, both returned, wounded, from overseas. The sergeant explained that he had been in the commercial printing business in a New England state before his induction. He said his plant had four Miehle Verticals, etc. We have one Miehle Vertical in our school here. When he spied the Miehle Vertical I honestly thought he was going to lean over and kiss it. His eyes lighted up like stars blinking in the heavens after many cloudy nights. He had been wounded. This sight brought back memories. I told him he had the run of the shop. He took the private all over the

Through the Gates of Understanding

pass the millions of small, yet powerful guardians of future generations—Linotype matrices. Not limited to any single tongue, nor yet a hundred. Today, Linotype speaks in eight hundred tongues.

So, the task of transforming the thoughts of well-informed and thoroughly balanced men into the printed word falls more upon the Linotype.

The Linotype is *truly* universal, as a machine, as a medium—symbol of the brotherhood of man.

Linotype Garamond Bold No. 3 Series

LINOTYPE

As a patriotic duty and to keep their Linotypes fit for the future, practically 8000 users have attended 125 Linotype Mechanical Clinics in recent months.

End the enemy by doing your job better—whatever yours may be!

shop and pointed to each piece of machinery and petted it as if it were a long lost brother. After the last piece had been reached, and he at last thought he was satisfied, he explained his mission. "You see, out at Reams, we have a case of type and a hand press. I am wondering if you have anything here you could sell us so we could set up a real print shop, so me and my buddies could have something to occupy our time?" Now, mind you, this comes from a wounded commercial printing proprietor who was trying to rehabilitate himself. There is food for thought. There will be many printers wounded in battle that will need memories of printing ink to bring them back, and that is where the vocational printing offices established in high schools throughout the United States can play their part and re-teach these wounded soldiers.

Would it be asking too much of the United States Government to employ Public Printer Geigengack to be the sole judge and allocate this surplus printing machinery to these vocational schools? These returned soldiers could live near their homes, and after the completion of the printing course would again find solace in the thing they loved the best—printer's ink.

W. R. CRAFT, Jr.,
Printing Instructor,
West Palm Beach High School,
West Palm Beach, Fla.

EXECUTIVE ¶s

Stanley W. Morden, according to Manager V. J. Ryan of Federated Metals Division, American Smelting and Refining Co., has been appointed sales and service representative for the states of Michigan and Ohio. Previously, Mr. Morden had been connected with the Burgess Cellulose Co., and more recently with Congress Electrotype Co. in Detroit.

Jay E. Miller, sales promotion manager, industrial products and sundries division of The B. F. Goodrich Company, has been named advertising manager of the division in addition to his present duties, it is announced by H. E. Van Petten, manager of B. F. Goodrich advertising. Miller is a graduate of Kent State University and was with the editorial staff of the Detroit *Free Press* before entering the rubber industry.

Norma-Hoffmannn Bearings Corporation, Stamford, Connecticut, at its Directors' Meeting on June 17, elected Frederick W. Mesinger a vice president, succeeding H. J. Ritter who recently resigned. Mr. Mesinger is a member of the American Society of Mechanical Engineers, the Society of Automotive Engineers, and the Army Ordnance Association, and an associate fellow of the Institute of Aeronautical Sciences.

Hamilton B. Wood, president of the Commonwealth Press and president of the Worcester Lithograph Corporation, both of Worcester, Mass., received an honorary degree of Master of Arts from Williams College on June 28. The degree was conferred by President James F. Baxter, III. The citation read in part: "Endowed with the love of music and with the ability to call it forth in others, this composer of some of our most cherished Williams songs has just completed 20 years' service as president of the Worcester County Musical Association." As director, Mr. Wood carried on its musical festivals, the nation's oldest annual concert series . . . with high distinction.

Hamilton B. Wood, president and treasurer of Commonwealth Press, Worcester, Mass., honored by Williams College.

Norma-Hoffmann Bearings Corporation, Stamford, Conn., announces the election, at a recent Directors' Meeting of D. E. Batesole as vice president and chief engineer. Mr. Batesole has been a member of the firm's Engineering Department for over 25 years, and has been chief engineer since 1937.

Norman-Hoffman Bearings Corporation, Stamford, Connecticut, announces the following appointments: Robert L. Miller, assistant sales manager, to be Eastern Sales Manager; Carl W. Hedler, assistant sales manager, to be Western Sales Manager, continuing his former duties in charge of distributor sales. Mr. Miller and Mr. Hedler, both of whom have been with the Norma-Hoffmann organization for many years, will report directly to Frederick W. Mesinger, recently elected vice president in charge of sales.

Papers Received

Port Huron *Times-Herald*

CONSISTENTLY good presswork is evident throughout the tenth annual Blue Water Edition of the Port Huron (Mich.) *Times - Herald*. This paper's mechanical departments are supervised by the well known trio: Composing Room Superintendent Frank Marengo, Stereotype Foreman Levi White and Pressroom Foreman Millard Shirts. There is little evidence of careless work in the mechanical departments. One section of the paper, particularly, is well printed. The front page of a special section is printed with an all-over halftone, solid and white-space area in blue ink.

Denison (Tex.) *Herald*

FRANK HOLLENBECK, pressroom foreman of the Denison (Tex.) *Herald*, has presented us a copy of the Thursday, June 29 issue. The outstanding appearance of a number of the pages is noteworthy. Mr. Hollenbeck, it seems, prints with impression rather than an excess of ink. The ink, by the way, contained no toner. Some of the large halftones were inserted in stereotype plates and were printed from direct on the press, using 100 line halftone screen. Several of the views of the Denison Dam district contain water areas. Our comment is that from the engraver to the pressroom the waves were retained in newsprint reproduction. Free use of white space in display advertisements is pleasing to the eye as is the excellent typography.

EMPLOYMENT
AND SERVICE

Employers, production and mechanical executives may insert notices in this department. Items may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions. Any reasonable request by an executive on a subject other than those listed will be granted cheerfully.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

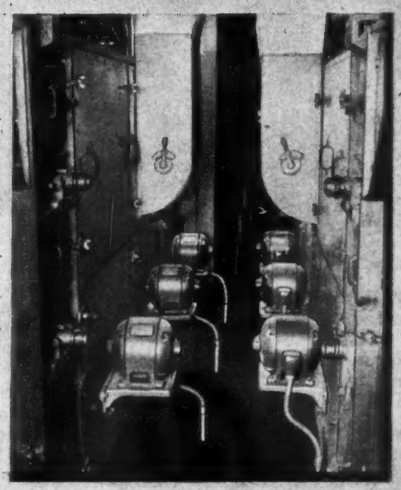
Address all communications with box number to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

PRESSMAN-STEREOTYPER — Wants position. Tubular equipment; 17 years at last position, color experience, locate anywhere. Willing to join union. Reply Box 208.

ROTOGRAVURE SUPERVISOR, Production Technician or Service Representative wants position. Fifteen years experience in job and newspaper field. Plate-making and color work specialist; 42 years old; references. Might consider modest business opportunity investment. Reply Box 207.

WHEN THE HEAT'S ON

Motor-driven machinery is often called upon to operate under conditions of extreme heat and humidity. For example, the motors on this wool-plant washer must operate in an air temperature of 100° F., with humidity higher than 80 per cent. Conditions like this would shorten the life of any motor lacking effective, performance-tested ventilation design. The double-end cooling system of the Tri-Clad motor helps offset the effects of high ambient temperatures common to heaters, dryers, and many ventilating-fan applications. In addition, motor windings of Formex wire (Class A insulation) are unusually long-lived under total temperatures (ambient plus rise) up to 194 F. For even higher temperatures, Class B insulation offers still greater protection.



G-E Tri-Clad motors applied to Sargent back washers at plant of the Southwell Wool Combing Company, No. Chelmsford, Mass.

Multi-Point Tests on TRI CLAD Motors Tell Temperature Conditions Inside and Out

Dozens of thermo-couples and thermometers at all vital points of this Tri-Clad motor reveal temperatures under a wide range of load conditions. First, tests like this helped to perfect the double-end ventilation design. Now regular tests of Tri-Clad motors taken off the production line verify previously established temperature-rise limits, and ability of insulation to stand up. Continued research along the same lines, including operation in enclosures which restrict air flow, points the way to further improvements in the future. *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

Every week 192,000 G-E employees purchase more than a million dollars' worth of War Bonds.

—Acme Photos.

Printing Follows the Armed Forces—Under anything but ideal conditions and produced with not-the-latest equipment, printing seems to be a requisite of the armed services wherever they may be distributed.

1—In Italy, the *Stars and Stripes*, official army newspaper for U. S. troops, doesn't wait for news to come to it—it follows the news around. T/4 Norman V. Todd, of Providence, R. I., is at the keyboard of a Model 5 Linotype aboard a truck near the front in Italy, while Acting 1st Sgt. Loren F. Roark of Fort Worth, Tex., stands by.

2—In the *Guinea Gold* (New Guinea) pressroom, an Australian soldier instructs a native in the mysteries of a hand-fed press (C&P made in Cleveland). By jeep-by native carrier, or even by supply trans, port plane, American troops receive their daily copy of *Guinea Gold* which brings to them news of the outside world.

3—Native Printers at Hood Point, New Guinea. In the mission at Hood Point village, Tamate (left) and Kila Iga operate a foot-power platen printing press. Although the shortage of paper prohibits much printing in wartime, religious pamphlets ordinarily are turned out by this print shop which is operated entirely by natives.

TECHNICAL LITERATURE

Production and Mechanical Executives wishing to secure copies of the literature described below may do so by addressing the manufacturer direct, or by sending request to Printing Equipment Engineer.

Bac-Etch Pre-makeready for Newspaper Plates

A twenty page illustrated booklet, 6 in. by 9 in. size, has been published by Joseph J. Reilly Co., in which is described J. H. Gibson's Bac-Etch process for making engravings for newspaper advertising cuts. Face of the plate is prepared and etched in the conventional manner, after which the same image, reversed, is produced on the back of that plate in precise register with the top surface. Through the medium of the Bac-Etch feature of light ray diffusion the back image is produced with all highlights and disconnected middletones dropped out, all connected middletones and shadows solidified. The face of the engraving is protected and the back now etched to a controlled depth. The Bac-Etch original is later pre-bumped, thus recessing the highlight and middletone areas to the depth etched out on the back. All mats, stereo shell casts and plastic plates subsequently made from the Bac-Etch original will contain the pre-makeready feature incorporated into the pre-bumped engraving.

Intertype Mold System

Thoroughly illustrated, 6 in. by 9 in., 48 page booklet published by Intertype Corporation explains the Intertype mold system. Shows entire range of mold bodies, caps and liners and what can be done with each, particularly with reference to advertising figure mold composition. A number of pages in the booklet are devoted to actual settings of grocery advertising figure work with analyses beneath each specimen to show how the composition was done.

Craftint Multicolor Process

A color chart, 16 in. wide by 9¼ in. deep, has been published by The Craftint Mfg. Co. In oblong patches are shown the possible range of colors which can be obtained with Craftint Multicolor Process. Each color patch is keyed with initials to show how the colors were obtained.

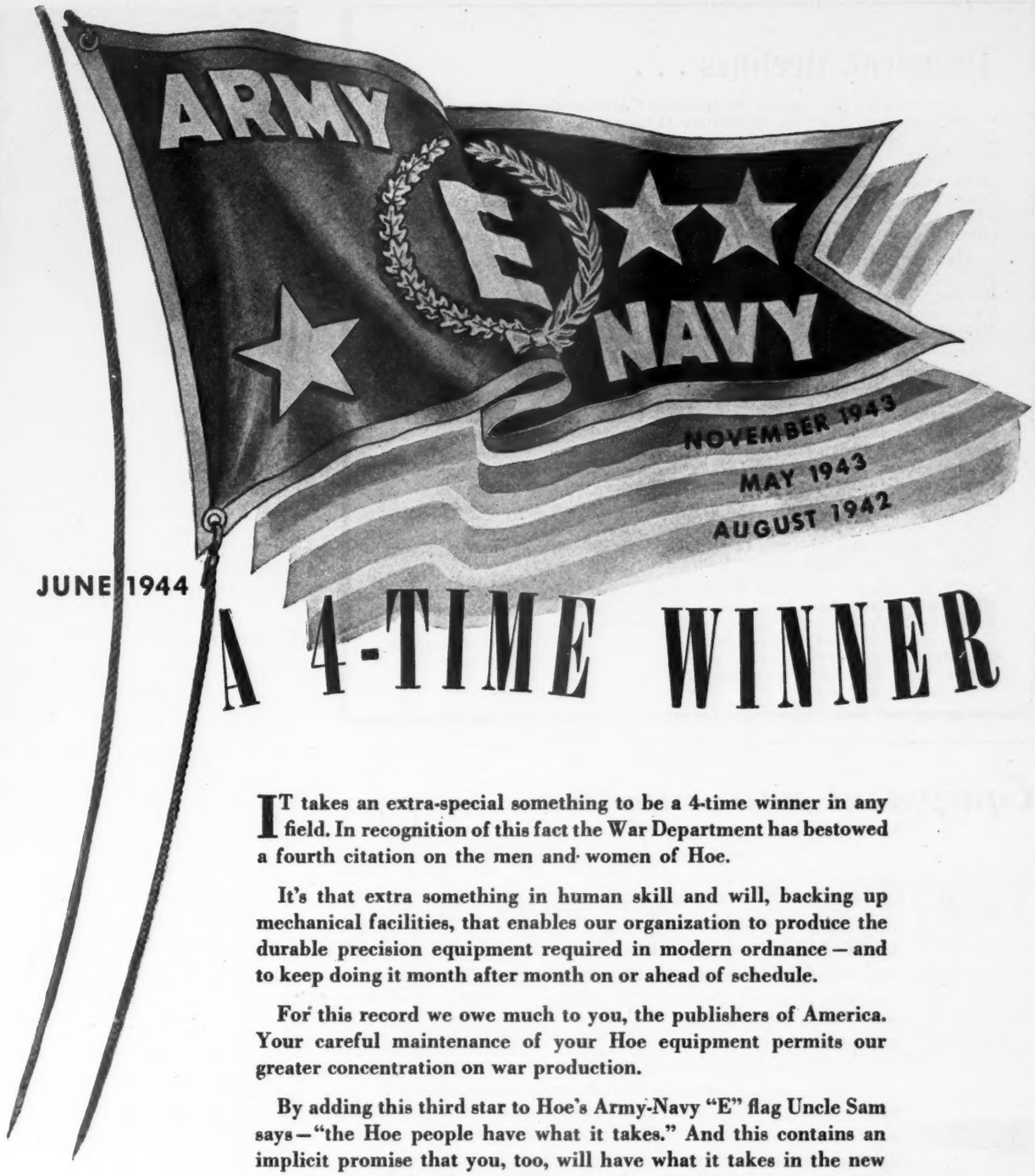
Meeting the Maintenance Problem

A four page, 6 in. by 9 in. folder, in which Mergenthaler Linotype Co. reports on its educational clinics held throughout the country. To date, over 130 clinics have been attended by more than 7000 operators, machinists and plant executives.

Paper Conservation Via Bundling

"CONSERVATION, forced upon us by the war, has taxed the ingenuity of all of us. As a result, many economies have been instituted by plant executives. As an illustration, paper cartons no longer available for non-essentials, affected the wrapping of many printing orders. We were faced with that situation in our plant. With the approval of freight and railway express companies and the postoffice, we instituted the use of bundling machines, such as are used for bundling folded sections, for wrapping printed matter for shipment.

"These bundles are tied and wrapped in kraft paper, making them suitable for shipment. After a short employee training period these bundles could be made up more rapidly than the operations of making up cartons, packing, glueing and taping."—Abstracted from address of Superintendent Edward T. Samuel, A. S. Gilman, Inc., Cleveland, during *Shop Methods and Management Clinic*, International Craftsmen's convention, Niagara Falls, Ont., July 1944.



JUNE 1944

A 4-TIME WINNER

IT takes an extra-special something to be a 4-time winner in any field. In recognition of this fact the War Department has bestowed a fourth citation on the men and women of Hoe.

It's that extra something in human skill and will, backing up mechanical facilities, that enables our organization to produce the durable precision equipment required in modern ordnance — and to keep doing it month after month on or ahead of schedule.

For this record we owe much to you, the publishers of America. Your careful maintenance of your Hoe equipment permits our greater concentration on war production.

By adding this third star to Hoe's Army-Navy "E" flag Uncle Sam says—"the Hoe people have what it takes." And this contains an implicit promise that you, too, will have what it takes in the new fast-moving era that peace will bring—the same high-speed, trouble-free qualities in your pressroom equipment that Hoe is now putting into Victory-winning ordnance.

Back the Invasion . . Buy more War Bonds

HOE

R. HOE & CO., INC.

910 EAST 138th STREET, NEW YORK 54, N. Y.

BOSTON SAN FRANCISCO CHICAGO BIRMINGHAM

Technical Meetings . . .

Great Lakes Newspaper Mechanical Conference—The October 1944 meeting has been cancelled indefinitely. George Fuller, President, c/o Stereo Dept., Cleveland *Press;* Al P. Oberg, Secretary-Treasurer, c/o *Journal,* Flint, Mich.

International Trade Composition Association—Hotel Statler, St. Louis, Mo., Friday and Saturday, August 18 and 19. St. Louis Typesetters' Association will be host. Association's offices: 629 Chestnut St., Philadelphia 6, Pa.

New England Mechanical Conference—Hotel Statler, Boston, October 14, 15. President, Glendon S. Magoon, Fitchburg (Mass.) *Sentinel.* Secretary-Treasurer, Walter C. Crighton, New London (Conn.) *Day*. Program Chairman, Geo. F. Marshall, Production Supt., Portland (Me.) *Press-Herald-Express.*

New Jersey Newspaper Mechanical Conference—Robert Treat Hotel, Newark, N. J., Saturday, November 18. One-day session. George H. Holloway, President, NJPA Mechanical Div.,Elizabeth (N.J.) *Daily Journal.*

Northwest Mechanical Conference—This conference has been scheduled to be held in February 1945. Announcement regarding meeting date and city will be made later. President, Al Rosene, Mechanical Superintendent, St. Paul *Dispatch* and *Pioneer Press;* Secretary-Treasurer—Vernon G. Eck, Danwoody Industrial Institute, Minneapolis, Minn.

Pacific Newspaper Mechanical Conference—(Formerly Pacific-Southwest Newspaper Mechanical Conference)—1945 meeting scheduled to be held in San Francisco—dates to be announced later. President, Ira Stuck, *Shopping News,* San Francisco, Calif.

SNPA Eastern Division Mechanical Conference—1944 Conference which was to have been held in New Orleans, La., has been postponed indefinitely. C. Frank Mann, Chairman Executive Committee, Louisville (Ky.) *Courier-Journal* and *Times;* Walter C. Johnson, Secretary-Manager of the SNPA and Secretary of the Mechanical Conference Executive Committee, P. O. Box 1569, Chattanooga 1, Tenn.

Equipment and Supplies . . .

Decal Transfer Locates Plant Fire Equipment—In order to easily locate fire-fighting equipment in the plant, a manufacturer has provided a 10 in. diam. sign or "locater", printed in large white letters on bright red background. The sign is said to be visible for 75 ft. in any part of the plant. The fire extinguisher locater sign is a decal water-transfer for placing on the wall above fire extinguishers. These decals may be obtained from Randolph Laboratories, Inc., 8 East Kinzie St., Chicago 11, Ill.

Dustproofing and Hardening Treatment for Terrazzo and Concrete

A LIQUID treatment called Westkrete is said to stop dusting of terrazzo and concrete floors, and seals them against water, oils, weak mineral and organic acids. This material is being offered by E. F. Westfield Company.

Westkrete is applied with mop, brush, long-handled broom, or sprayed with sprinkler can over unpainted and worn painted surfaces, but should not be applied over newly painted areas. It dries quickly. Floors can be used as soon as dry.

Manufacturer states Westkrete will not wear off under traffic. Its low viscosity and high concentration of active ingredients permit it to penetrate deep into the pores of concrete where it hardens into a rocklike, water insoluble mass that reinforces the binder and stops dusting, crumbling, and cracking by eliminating the cause.

Ameritred Matting

AMERITRED matting is designed for many places where rubber matting was formerly used, states American Mat Corporation.

Ameritred is a solid plastic friction type mat made by firmly binding friction compound together by a plastic. It may be used in building entrances, lavatories, shower and locker rooms, as hall runners, stair treads and landing mats, on ramps, in front or back of counters, and for covering worn spots on floors. It lies flat and affords a non-slip surface.

Jet black in color, it comes in 29 in. by 63 in. by 3/64 in. easily cleaned sheets. Manufacturer claims it does not swell as rapidly as rubber where exposed to various types of oils. This plastic friction type mat can be trimmed to fit odd shaped areas.

Correction

Printing Equipment Engineer regrets that it misquoted a statement made by LeRoy Church, Mechanical Superintendent of the Akron (O.) *Beacon-Journal*, in its report of the proceedings of the June ANPA Mechanical Conference.

Our report had it that Mr. Church asserted " . . . papers being printed now are no better than those printed 35 years ago." Mr. Church's statement should have been reported as follows: ". . . . papers being printed now are better than those printed 35 years ago."

What Mr. Church meant to convey was that the average newspaper printing of today is a great improvement over the printing of 25 or 35 years ago. He also stated that he considered the *Beacon-Journal* the equal of any newspaper in the country from a printing standpoint. This last statement caused Mr. Disher of the Montreal (Que.) Southam Newspapers to request the proof. When Mr. Church produced recent copies of the *Beacon-Journal*, no one took exception to his remarks.

Conference Postponed

The SNPA Eastern Division Newspaper Mechanical Conference, which was to have been held in New Orleans, La., on Oct. 30-31 and Nov. 1, has been postponed. No announcement has been made as to when the meeting will be held. It is understood, however, that the meeting was cancelled in response to ODT's suggestion that all conventions be called off. C. Frank Mann, Composing Room Superintendent of the Louisville (Ky.) *Courier-Journal* and *Times*, is Chairman of the SNPA Eastern Div. Mechanical Committee. C. C. Chadwick, Intertype's New Orleans Manager, is chairman of the equipment representatives' committee.

Printing Patents . . .

Covering patents issued June 27, July 4, July 11, July 18

This data is compiled exclusively for Printing Equipment Engineer by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading for the dates specified.

For copies of patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

BINDING, CUTTING, PERFORATING; and COMPOSING ROOM EQUIPMENT

In the four weeks covered, no new patents have been issued for these classifications.

Feeding, Folding and Delivery:

2,353,196. APPARATUS FOR HANDLING AND OPERATING ON MATERIAL for use with printing presses, particularly the flat bed and cylinder type. Invention provides for removing and replacing the pile support from the side of a rollaway delivery while at the same time insuring proper guiding and supporting of the delivery in its movements relatively to the press and proper registry of the delivery to the press when in operative position. Guiding and supporting means are interposed between the delivery and the press room floor, enabling free lateral access to the pile support from one side of the delivery. One guide rail or track extends out from press and underlies the delivery adjacent one side thereof. Invented by Joseph Sinkovits, Pittsburgh, Pa. Assigned to Miller Printing Machinery Co., Pittsburgh, Pa. Application August 12, 1941. 27 claims.

2,353,445. FOLDING AND DELIVERING MECHANISM for use with rotary printing presses. Rotary means are provided for cutting one or more associated webs of paper into sheet lengths, which sheets are transferred to anotner cylinder which may collect a plurality of sheet lengths. The single group of sheets or collected group of sheets are transferred to either or both of two jaw cylinders into the jaws of which the products may be folded. After such operation, the products may again be folded into the jaw of another jaw cylinder before delivery. Slitting means are also provided to slit the folded product into more than one section. Invented by Curtis S. Crafts, Oak Park, Ill. Assigned to The Goss Printing Press Company, Chicago, Ill. Application June 3, 1942. 12 claims.

2,353,609. SHEET CUTTING AND FOLDING MECHANISM adapted to cut any one of several different sizes of sheets from a printed web and fold them. Device includes a plurality of pairs of sheet cutting cylinders, each adapted to cut a determined size of sheet from a web, and which are arranged to be selectively operated and to feed the different sizes of sheets to a common delivery mechanism, with a minimum adjustment of parts. The sheets of each length are so presented to the folding cylinder that they will be folded midway between their leading and trailing edges. Invented by Adolph M. Zuckerman, New York, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application June 3, 1942. 12 claims.

Miscellaneous:

2,353,717. PROCESS OF FINISHING in which a film is formed and transferred to an article for the purpose of decorating, varying the visual characteristics of article, preserving and/or strengthening the article. It is useful in making magazine covers, pictorial and other advertising pages, prints, photographs, maps and covers for books. Process comprises applying a layer of inherently thermoplastic material to a backing sheet of smooth non-fibrous material to form a transfer, contacting film so formed with the article to be finished, applying heat to film and/or article, exerting pressure to cause adherence of film, and stripping the backing sheet from film. Invented by Carleton S. Francis, Jr., Chestnut Hill, Pa., and Worth Wade, Scarsdale, N. Y. Assigned to Sylvania Industrial Corporation, Fredericksburg, Va. Application July 19, 1940. 5 claims.

2,353,994. MACHINE FOR TREATING PAPER by which an edge or opposite edges of a paper web may be skived or deckled. Apparatus may be readily incorporated in printing machines. A milling cutter cooperates with a support, and cutter and support are adjustable so that angularity of the peripheral cutting surface on the support may be adjusted to a substantial degree to produce skiving or deckling of the edge of the web of paper. Invented by Percival W. Chapman, Norwich, and Oscar A. Jouret, Moosup, Conn. Assigned to The Lester & Wasley Co., Inc., Norwich, Conn. Application July 24, 1940. 1 claim.

Plate Making:

2,352,518. PRINTING CUT having a sectional backing comprising a number of block sections, in which the grain of all of the blocks is perpendicular to the line of printing pressure, thereby to prevent undue compression. Edges of the sections are interengaged by key tongues and grooves for uniting the sections into a common flexible, conforming mat. This is adhered to the back of a thin printing plate by means of a thermo-plastic layer, the plate and backing being placed under heat and pressure to produce a compact unitary printing cut which is incompressible and nonwarping. Invented by Joseph T. Cochran, Chicago, Ill. Unassigned. Application September 30, 1940. 9 claims.

2,352,905. METHOD OF FORMING COMPOSITE PRINTING PLATES. The nickel copper plate is subjected to a bath before placing the plate in the casting machine so that it will be unnecessary to utilize tinfoil. The bath consists of water, zinc chloride, and ortho-phosphoric acid. The bath deposits a thin film or flux on the copper, so that the lead, antimony and tin will adhere thereto, thus dispensing with tinfoil and its tinning action. The plate is then dried and electrotype metal is cast on the conditioned copper surface. Invented by Axel E. Lundbye, Springfield, Ohio. Assigned to The Crowell-Collier Publishing Company, Springfield, Ohio. Application June 18, 1942. 5 claims.

2,353,867. PRODUCTION OF COLOR SEPARATIONS in art work, which is adapted to the production of color plates for multicolor reproductions of the original art work or master production. It is suitable for printing multi-colored maps, cartoons, etc. The method includes a process of applying a series of base color designs and a master production to be reproduced in color, tracing the designs onto a separate sheet for each color by the application of the respective color designs to the master production. Color crayon may be used to transfer the design. Or photoengraving, zinc, copper, half tone plates, etc., silk screen, multilithography and rotogravure processes may be used. Invented by Carl B. Balcomb, Dayton, Ohio. One-half assigned to William P. York, Aurora, Ill. Application June 15, 1942. 7 claims.

2,353,991. PROCESS FOR THE RAPID AND THOROUGH DISPERSION OF PLASTICIZERS AND CELLULOSE into a solution, and for incorporating filling material into plastic solutions and the like, such as finely

How About Favorite Metal Gauges?

We thank you engravers for the unexpectedly large response to our recent questionnaire. This was sent out to determine what gauges of copper and zinc would be most preferred when weight restrictions were removed.

What the replies revealed:

89.1% stated they would use 16 gauge zinc entirely.
4.5% stated they would use 18 gauge zinc entirely.
4.0% stated they would use 16 and 18 gauge zinc.
2.4% stated they would use 16, 18, and 21 gauge zinc.
92.5% stated they would use only 16 gauge copper.
4.5% stated they would use only 18 gauge copper.
3.0% stated they would use a combination of 16 and 18 gauge copper.

Briefly stated, the replies definitely indicate a decided preference for 16 gauge metal and present standard-size sheets.

As to sheet sizes:

Only 6% indicated they would require sizes in addition to present standard sheets.

Now, your regular metal supplier is ready to furnish you with the required gauges of Zomo Electric Zinc and A-Z Alloy — famous for uniformity and dependability with Plastic Backote and Machine-cut Finish.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

divided solid materials in cellulosic plastics, phenolic-aldehyde resins, while in solution. The process is useful in making printing plates, and is related to patent 2,219,587, this new process requiring only 3-4 hours. An excess of a volatile solvent such as acetone, alcohol, or ether and alcohol, is used to aid in producing the dispersion. The excess solvent is removed and recovered as mixing proceeds to completion. Air is introduced into the mixture along with the solid material to aid in dispersion and act as a vehicle while removing solvent. A grinding action is used on the materials while they are being incorporated into the plastic solution, to provide a quicker, more thorough incorporation into the liquid plastic solution. Invented by Clarence E. Boutwell, Birmingham, Ala. Unassigned. Application September 2, 1941. 5 claims.

2,354,088. PROCESS OF INCREASING STABILITY of a diazo-type light-sensitive layer containing a diazo compound obtained from an ortho amino naphthol compound and an azo dye coupling component. Carriers for the light-sensitive layer may be textiles, paper, cellulosic films, and glass and metal surfaces. The process comprises adding crotonic acid to the coating solution. The solution is then applied to the base, using a doctor blade or similar device to insure a thin even coating. Invented by Maximilian K. Reichel, Albany, N. Y. Assigned to General Aniline & Film Corporation, New York, N. Y. Application December 4, 1942. 11 claims.

2,354,149. CORRECTION OF COLOR-SEPARATION NEGATIVES. The invention concerns certain procedural advantages and resulting functional benefits accruing from improvements in the printing arts in the production of suitable protective and corrective photographic-transparency overlays for the color-separation negatives used in making the corresponding printing plates. The invention aims to standardize the procedures for producing the overlays of the correct values to be associated with the respective color-separation negatives, or to place the necessary operations on a systematic or graphic basis, rather than to depend upon the aptitude and personal discretion of an operator. Invented by Benjamin L. Sites, Chicago, Ill. Assigned to Miehle Printing Press and Manufacturing Company, Chicago, Ill. Application September 12, 1941. 3 claims.

Printing Inks and Related Chemicals:

2,352,604. PREPARING DIRECTLY FROM GLUTEN A SOLUTION OF ZEIN-CONTAINING PROTEINS in a solvent or mixture of solvents, useful in coating, sizing and impregnating paper, textiles, wood, and wood pulp, for laminating paper, cloth, wood, glass, metals and metal foils. The coating composition may be modified by fatty acids such as oleic, linseed, hemp seed, lauric, etc. Fillers such as bentonite, or equivalent colloidal clays, pigments, and the like are used and the product is also useful in the preparation of printing ink and printing ink bases. A solvent mixture containing isopropyl alcohol and diethylene glycol is added to powdered gluten in a vessel. Mixture is heated with stirring to extract zein-containing proteins from gluten. Mixture is forced through a filter to separate zein-containing extract, and the extract is heated. The residue is a solution of zein-containing proteins principally in diethylene glycol. Invented by Roy E. Coleman, Chicago, Ill. Assigned to Time Incorporated, a corporation of New York. Application November 30, 1942. 15 claims.

2,352,659. LETTERPRESS PRINTING INK WHICH MAY BE STORED for long periods without deterioration from hardening, drying, caking, etc., which may have a high solid content, and which may be dried, hardened or set on sheet almost instantly. The ink does not include any nitro-cellulose or other highly inflammable ingredients. The printing ink contains resin as a vehicle for the pigment, the polymerization of the resin being controlled in the preparation thereof, so that resin in the ink is but partially polymerized. After application of ink to sheet in printing, polymerization of resin is rapidly completed, preferably by application of heat to dry film. Suitable resins include urea-formaldehyde type, alkyd type and phenol type. Fatty acids and esters may be used to modify the ink. Invented by Harvey A. Seil, Rutherford, N. J., and Herbert Cole, New York, N. Y. Assigned by direct and mesne assignments to William Walter Frankel, New York, N. Y., and Jacob Logan Fox, Chicago, Ill., as trustees. Application March 14, 1938. 5 claims.

2,352,810. GRAINING INK FOR ARTIFICIAL WOOD-GRAINING, (e.g., to reproduce grain patterns of fine woods on cheap wood or metal), having correct body for intaglio offset application. Ink comprises coloring matter (such as titanium dioxide, carbon black, bone black, etc.) dispersed in a vehicle consisting of a resin which is the reaction product of glycerol, phthalic anhydride, benzoic acid and fatty acids derived from drying and semi-drying oils. Dimethyl phthalate is the preferred plasticizer used, the dialkyl esters of phthalic acid being most suitable. Suggested acids include soya bean, tung, and perilla fatty acids. Although the graining ink may be applied to wood directly, it is desirable to apply a ground coat first. Invented by Raymond A. Swain, Bellevue, Ky. Assigned to Interchemical Corporation, New York, N. Y. Application May 17, 1941. 3 claims.

2,353,411. TEXTILE PRINTING COMPOSITION containing a metallizable azo dyestuff of the class generally designated as mordant-acid dyes. Better solubility of the dyestuff in the paste may be achieved, causing increased penetration of dyestuff into the fabric, and increased speed of fixation. The composition is modified so that it contains an ethanolamine, for instance mono-, di- or triethanolamine, in sufficient quantity to give the paste an alkalinity corresponding to a pH value between 8.0 and 10.5. An example is: Pontachrome Fast Red E Conc.—Color Index No. 652, 3 parts; Triethanolamine, 15 parts; Water, 15.5 parts; Copper chloride, 1.5 parts; thickener, 65 parts. Invented by Charles Franklin Miller, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application September 2, 1942. 6 claims.

Printing Presses and Equipment:

2,352,217. ENBLOSED INK FOUNTAIN for rotary intaglio printing presses. Invention comprises a novel wiping mechanism which includes a fixed back frame, a carriage reciprocable thereon, and a swinging doctor frame reciprocable with the carriage. Means are provided for swinging doctor frame to adjust contact pressure of doctor blade on design cylinder. Longitudinally adjustable hooks, mounted to swing on the doctor frame to engage carriage, removably lock the doctor frame to the carriage in its wiping position. Invented by Joseph E. Meyer, Westerly, R. I. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Application December 3, 1941. 15 claims.

2,352,337. ENCLOSED INK FOUNTAIN for rotary intaglio printing presses. Application for this patent was filed together with the application for patent 2,352,217, above. This patent deals particularly with the hollow inker head having an inlet port, a discharge slot, a lower horizontal passage open to the inlet port and an upper horizontal passage open to the discharge slot. Vertical passages connect the lower and upper horizontal passages, and the width of the discharge slot may be varied. Invented by Joseph E. Meyer, Westerly, R. I. Assigned to C. B. Cottrell & Sons Company, Westerly, R. I. Application December 3, 1941. 19 claims.

2,352,882. TEXTILE DYEING MACHINE for continuously printing a design on rolls of textile fabric. Design is prepared by placing particles of variously colored dyes on a layer of a gelatinous solution and spreading or raking the dyes so as to obtain desired patterns. Fabric is then placed on gelatinous layer and design is transferred to fabric. In order to make process continuous, the matrix is formed at one end of an endless belt, the dyes are then applied to the matrix, the matrix with the dyes is manipulated as by raking or combing, and a fabric is applied to the colored layer from a roll placed above the belt. Belt and fabric are moved at the same speed, the printed fabric being dried while belt is being cleaned. Invented by Alexander J. Belokopytoff, New York, N. Y. Assigned to Paul N. Robins, Scarsdale, N. Y. Application October 18, 1941. 5 claims.

2,353,048. GUIDING MEMBERS for intaglio plate printing machines. The guides are secured to a flexible driving member or chain and engage guideways to steady and thus prevent undesired and excessive sidewise vibration of the flexible plank driving member. In other words, undesired lateral vibration of a flexible driving member, such as a chain, while it is propelling a printing plate supporting bed or plank about a rectangular frame, is obviated. Invented by Vincent Larocca, Brooklyn, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application October 17, 1941. 6 claims.

2,353,215. PLATEN-PRESS FOR THE WORKING OF CARDBOARD BLANKS that are conveyed to and from the platen by gripper-bars disposed between endless chains. There are provided upper and lower platens, one of which is movable towards and away from the other. A blank working tool is movable into and out of position between the platens. Means are provided for securing tool in proper relation to the platens and for facilitating its removal from between platens. Such means comprise an interiorly threaded cavity in one of the platens, a hollow sleeve having a part fixedly connected to tool, a plunger in the sleeve having an exteriorly threaded extremity engageable with the interiorly threaded cavity in the platen, a collar on plunger and a spring between collar and end of sleeve. Invented by Henri Bobst and Josef Kury, Lausanne, Switzerland. Assigned to J. Bobst & Fils S. A., Prilly, Switzerland. Application September 17, 1941. 2 claims.

2,353,734. INDICATOR FOR CYCLIC LUBRICATING INSTALLATION adapted for application to the lubrication of printing presses. A signal or indicating system is provided which will indicate operation of an intermittent cyclic lubricating installation even though there be substantial intervals between pressure application. Objects of invention are accomplished by using a gauge connected to the distributing system and preferably in the distributing system at a point relatively remote from the central pressure source or the gear pump, which will register immediately the peak pressure which is applied to the system by the central pressure pump, but which will only return slowly to zero after the pressure application. Invented by Edward H. Kocher, Boonton, N. J. Assigned to Auto Research Corporation, a corporation of Delaware. Application August 3, 1940. 5 claims.

2,353,877. PROCESS OF MAKING RUBBER-LIKE WEBS having interconnecting microscopic pores, useful

Spaceband Transposition

By WM. J. BUTLER*

*Machinist, Union Gospel Press, Cleveland, Ohio.

PROBABLY if we followed faithfully, word for word, a composite symposium compiled by a hundred line-composing maintenance men, we would still have some spaceband transpositions. However, every little bit of information added to what we have had to dig out for ourselves will make this problem less bothersome.

Spaceband transpositions seem to occur more frequently on machines where the spaceband cams are equal in size and shape to the other cams in the keyboard, in combination with operators who are limited in speed by the capacity of the machine.

Of course we have checked the stationary front partitions from the point where the matrices leave the magazine to the portion at the bottom where the matrix is delivered to the matrix assembler belt. We have checked the assembler belt itself to be sure it is tight enough and that the matrices meet no obstruction on the way down to the assembler. The assembler cover sometimes becomes sprung and extends inwardly beyond the assembler entrance cover so that matrices strike its top edge. Late model machines have an interlocking joint between the two covers to prevent this.

We have put the keyboard cams, rubber rolls and escapements in good shape so that a slow or medium-fast operator gets along very well, but a fast operator complains that the spacebands enter the assembler occasionally just before the last letter of the word: lik ethis.

It would seem that this trouble has been common as late model machines have a spaceband cam which is larger than the other cams, making its revolution slower. The same result can be obtained by reducing the diameter of the rubber roll at the point where the spaceband cam contacts it. This is done easily by revolving the rubber roll on its shaft slowly with the rubber roll in light contact with a coarse emery wheel until the diameter of rubber roll at that point is about 0.900 in. If it is cut much less than this diameter there will not be sufficient lift of the spaceband lever to depress the spaceband box pawls below spaceband box rails. You may have to take out lost motion due to wear at several places between the spaceband cam and spaceband box, but the spaceband will respond enough slower to overcome the trouble of arriving in the assembler before the last letter of the foregoin gword.

MORLEY TRUTONE MATS ARE TOPS HERE, TOO!

MORLEY
TRUTONE
MATS

THAT'S right . . . Morley Trutone Mats are molded at the Concord, N. H. Monitor Patriot, and plates made from these are used in the printing of the Reader's Digest Egyptian Edition. You can recognize the quality of Morley reproduction anywhere... for Morley Trutone Mats, made to meet individual requirements, give clear-cut printing and maximum value in illustrations.

THE MORLEY COMPANY
PORTSMOUTH, NEW HAMPSHIRE
WE ARE PROUD TO ANNOUNCE THAT OUR "E" FLAG NOW CARRIES A WHITE STAR FOR CONTINUED MERITORIOUS SERVICE ON THE PRODUCTION FRONT

PLUS PLAN USERS
Haven't Needed Aspirin

In spite of the tremendous wartime difficulties in manufacturing, shipping and servicing type metal, subscribers to the Imperial Type Metal Plus Plan have needed no aspirin for headaches and worries due to type metal troubles. We have been fortunate in continuing to give our thousands of Imperial Type Metal Users pre-war metals and service . . . Yes, Imperial has demonstrated dependable metal quality and service in wartime. Take advantage of this dependable type metal service by Imperializing your plant.

IMPERIAL TYPE METAL CO.
Serving the Graphic Arts Industry Only
PHILADELPHIA · NEW YORK CHICAGO

Imperial

If you are Going to be in a Hurry . . .

Get the full facts on the No. 3A C&G Saw Trimmer now and place your order for delivery as soon as available.

C&G Saw Trimmers are the first selection of leading printers and publishers throughout the country. They are designed for high speed production and safe operation. They have many exclusive features found in no other saw.

Illustrated circulars, showing why C&G Saw Trimmers are preferred by good compositors, will be sent at your request.

MILWAUKEE SAW TRIMMER CORP.
610 EAST CLYBOURN STREET, MILWAUKEE 2, WISCONSIN

in making ink-containing and ink-conducting printing or inking webs, in the present instance (see assignee), having printing characters in relief thereon or in intaglio therein. A synthetic rubber such as butadiene copolymers containing standard vulcanizing ingredients is comminuted and then intermingled with a filler of the same particle size, the filler being inert to the rubber-like material. Sodium nitrate is the preferred filler. The materials, after being mixed, are placed in a die mold, preferably of the positive pressure type. The material is vulcanized under heat and pressure. The filler is removed by washing it with hot water with a wetting agent mixed in it, the rubber being inert to this solvent so that micro-porous rub er (minus filler) remains. Invented by Robert G. Chollar, Dayton, Ohio. Assigned to The National Cash Register Company, Dayton, Ohio. Application January 19, 1942. 10 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

WPB Notes

Personnel of Commercial Printing Industry Advisory Committee and What They Did at Recent Meeting

A PLEDGE to cooperate fully with the Government in conserving print paper and in salvaging waste paper was made by the recently-reorganized Commercial Printing Industry Advisory Committee at its meeting, the War Production Board announced on July 20. Commercial printing industry representatives said they would urge customers to eliminate as much unnecessary printing as possible, and curtail elaborate printing and advertising. Savings thus made would leave an adequate supply of paper for necessary business and Government printing.

R. D. Ross, Government presiding officer, appointed a committee to study methods by which printers' customers can be informed of paper supply conditions and be advised how they can conserve paper and still meet business requirements. Members of the committee are: Allen Frost, Cleveland; Roswell Mower, Chicago, formerly head of the WPB Container Division, and Elmer Voigt, Racine, Wis. They will submit their report at the next committee meeting on August 23.

"It is difficult for WPB to forecast the print paper situation for the fourth quarter," Harold Boeschenstein, acting director of the WPB Forest Products Bureau, told the committee, "but we may have to further curtail the usage of printing papers before the end of the year.

"The amount of available paper after October 1 depends upon increased cutting of pulpwood and the progress of waste paper collections. Low water levels in parts of Canada, preventing the movement of pulpwood to the mills, and increased military requirements affect certain types of paper."

Explaining that shortages of kraft papers, used in making retail paper bags and wrapping papers, are now being felt by consumers, he pointed out that severe limitation had been necessary in that field to assure sufficient paper to meet military and civilian requirements. In view of expanding military requirements for printing papers, this limitation might have to be applied in the graphic arts industry, he explained. He asked that users of printing papers eliminate their elaborate advertising portfolios, brochures and presentations.

Printers should be able to find ways of doing a good job for their customers with "more thought and less paper," and thus avoid some of the current criticism, which is hurting the whole industry, Mr. Boeschenstein added.

Members of the Commercial Printing Industry Advisory Committee are: A. J. Baird, Baird-Ward Printing Co., Nashville, Tenn.; E. L. Baring, Baring Press, Detroit; Allen Frost, Copifyer Lithograph Corp., Cleveland; J. C. Hall, Hall Brothers Inc., Kansas City, Mo.; Leslie Jackson, Stecher-Traung Lithograph Corp., Rochester, N. Y.; Roswell C. Mower, Manz Corporation, Chicago; James F. Newcomb, James F. Newcomb Co., Inc., New York, N. Y.; Thomas B. Sheridan, American Bank Stationery Co., Baltimore; Elmer Voight, Western Printing & Lithographing Co., Racine, Wis., and Hamilton B. Wood, Commonwealth Press, Worcester, Mass.

Zinc and Copper Order M-339 Amended

RESTRICTIONS on zinc sheet for use in making printing plates have been relaxed in a revision of Conservation Order M-339 issued on July 10 by the War Production Board.

The amended order permits a platemaker to use 100%, by weight, of the amount of zinc he used for making printing plates in the corresponding calendar quarter of 1941, instead of only 60% as previously permitted, according to Meiric K. Dutton, assistant to the director of the WPB Printing and Publishing Division.

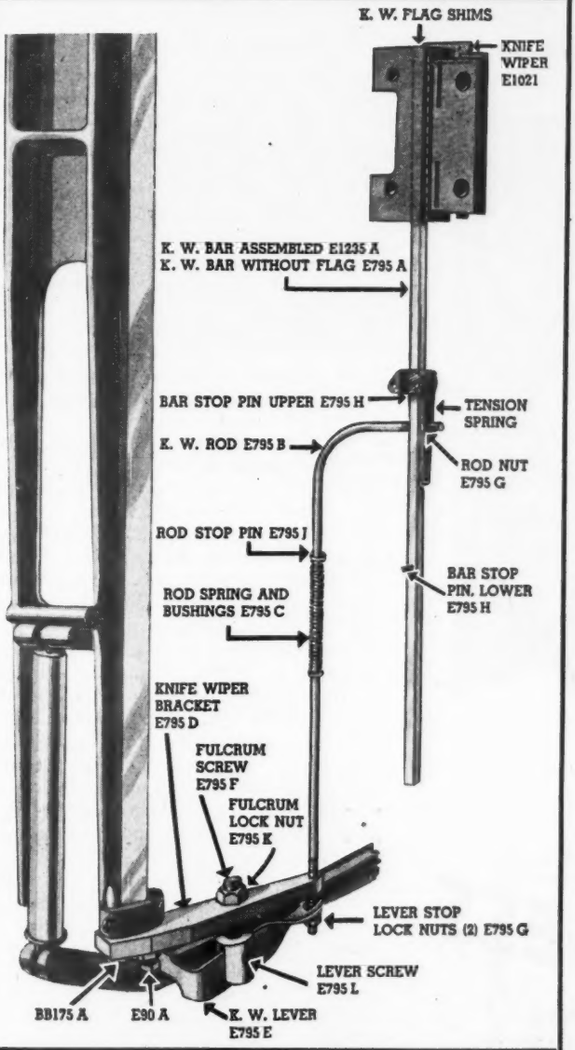
It also permits any plate-maker to consume up to 250 lbs. of zinc in any calendar quarter beginning with the third quarter of 1944. This provision applies to a new plate-maker as well as to any existing plate-maker who used less than this amount of zinc in a quarter of 1941.

The amended Order M-339 does not relax any of the basic restrictions on copper for use in making printing plates. Copper continues to be restricted to 60%, by weight, of the amount of that metal that a plate-maker used for printing plates in the corresponding calendar quarter of 1940. However, electrotypers and gravure plate-makers are now allowed all of their permitted usage (up to 60% of 1940 quarterly usage) in the form of new copper, provided that half of this amount is in the form of new cast anodes received by the platemaker in return for an equal amount of printing industry scrap copper.

Sheet copper in the hands of suppliers on December 31, 1942, is also released for use in making copperplate engravings.

The amendment also provides that a copperplate engraver must now turn in as scrap only one pound of old copperplate engravings, instead of three pounds

★ *Before you order more parts for your old Knife Wiper, get the cost. Then compare this figure with the cost of a complete new Knife Wiper of much simpler, more modern design, such as the one pictured here. To the LINOTYPE MACHINIST and MECHANICAL SUPT., the facts will speak for themselves. But if you are still "from Missouri" or Honolulu — you can avail yourself of our standing offer to try it on 10 days approval.* **Price $8.50.**


K. W. FLAG SHIMS
KNIFE WIPER E1021
K. W. BAR ASSEMBLED E1235 A
K. W. BAR WITHOUT FLAG E795 A
BAR STOP PIN UPPER E795 H
TENSION SPRING
K. W. ROD E795 B
ROD NUT E795 G
ROD STOP PIN E795 J
BAR STOP PIN, LOWER E795 H
ROD SPRING AND BUSHINGS E795 C
KNIFE WIPER BRACKET E795 D
FULCRUM SCREW E795 F
FULCRUM LOCK NUT E795 K
LEVER STOP LOCK NUTS (2) E795 G
LEVER SCREW E795 L
BB175 A
E90 A
K. W. LEVER E795 E

LINOTYPE PARTS COMPANY

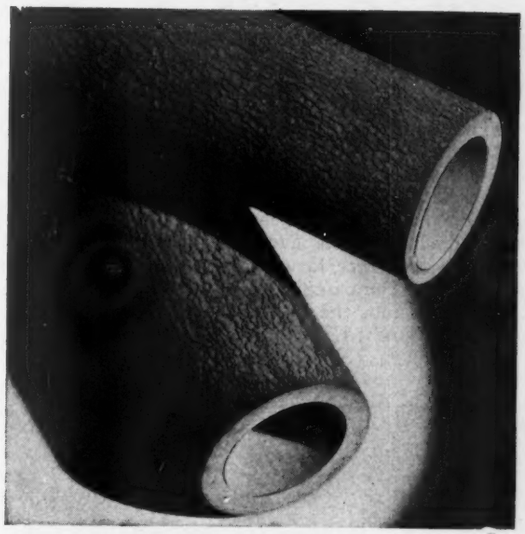
Weatherly, Pa. — FACTORY — MAIN OFFICE

Kansas City, Mo. — 314 WEST 10th STREET

Precision TRADE ★ MARK Parts

CHICAGO — MINNEAPOLIS — DENVER

The user of **ACE BELTS** *is insured against trouble*



BOOTH'S BLACK RUBBER ROLLS

We still are able to supply Booth's Black Rubber Rolls for line-composing machine keyboards. These rolls are fabricated from genuine, live rubber and are of pre-war standard. Their properties are such that you will thank us for calling them to your attention if you are not now using them. Booth's Black Rubber Rolls are of the same diameter from end to end when applied properly to the shaft. The excellent cam-gripping surface of these rolls is retained through a long period of use. Per pair, $1.45. Per dozen rolls, $7.75.

BOOTH'S ZINK CUT CEMENT

This specialized cement is made for one purpose only—that of fastening all kinds of cuts to wood or metal base. Prices in the United States: 75c per tube; $6 per dozen tubes; $5 per dozen tubes in gross lots.

THE E. A. BOOTH RUBBER COMPANY

364 ROCKEFELLER BUILDING • CLEVELAND, OHIO

as previously required, for each pound of copper sheet or old engraved plates used by him in making new copperplate engravings. These changes will not increase the permitted usage of copper by a copperplate engraver. He continues to be limited in his combined total usage of both copper sheet and old engraved plates to not more than 60%, by weight, of his 1940 quarterly usage of copper.

The amended order requires that all zinc, regardless of gauge or of the date it was finished as photoengravers' sheet, must be calculated at its actual weight without any allowance for the heavier 16 ga. metal as compared with 18 ga. zinc. It also rescinds the provision that permitted unrestricted use of zinc for plates or printing ordered by a U.S. department or agency.

Zinc sheet for use in making printing plates remains under the priorities controls and inventory controls of Order M-339, according to Mr. Dutton, who said that some confusion appears to exist in the printing trade as to the controls over this material. It was also pointed out that zinc is defined in Order M-11-b as including any alloy that contains 50% or more of zinc and that all zinc as defined in Order M-11-b is controlled by Order M-339 when it is for use in printing plates.

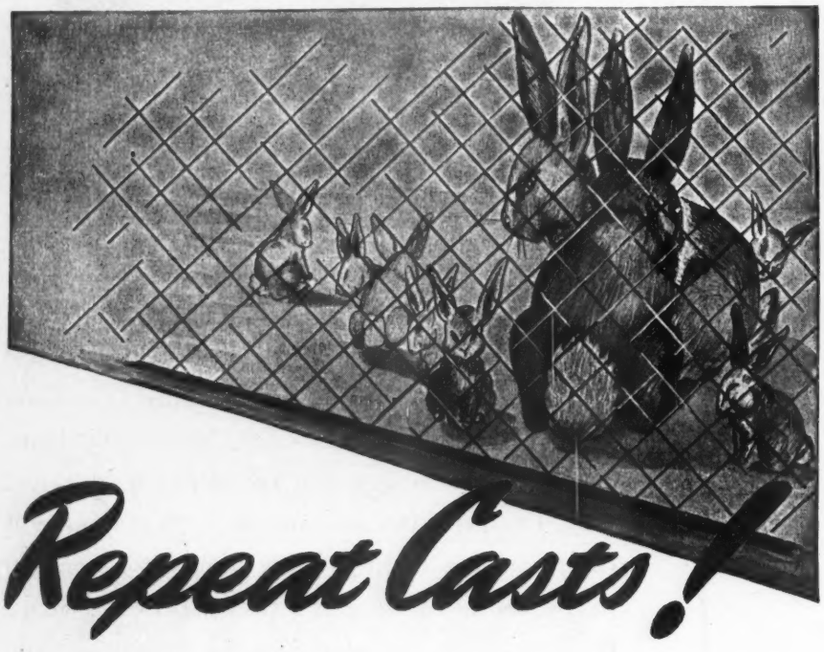
A publisher, printer or printer's customer may not use his preference rating under Controlled Materials Plan Regulation No. 5 to purchase processed printing plates (*e.g.* the finished photoengravings or offset plates), nor will the Washington office or WPB field offices grant ratings for these processed printing plates on direct application.

The zinc sheets from which these printing plates are made may be obtained only on an authorized preference rating of AA-5 or higher, Mr. Dutton said. Photoengravers who have applied for their copper requirements on Form CMP-4B and who used zinc in 1941, have received a rating for the purchase of their zinc sheet on a CMPL-517 letter that accompanied their allotment for copper.

Application for the increases in zinc use permitted under the amended order should be made quarterly on Form WPB-541 to the nearest WPB field office. This application for zinc by plate-makers, who already hold a partial authorization on CMPL-517, should contain a statement of the applicant's inventory of zinc at the time of filing the application, a statement of his 1941 quarterly usage of zinc and a statement of his additional requirements for the particular quarter for which application is made. These additional requirements, combined with previous authorizations, may not exceed the plate-maker's allowable usage under Order M-339.

Captive platemaking departments within printing or lithographing plants, which make plates only for use within that plant, will usually be able to use their preference rating under CMP Regulation No. 5 for the purchase of their allowable quantities of zinc sheet. All other plate-makers, including new plants that begin production under the provision that a new plate-maker may consume up to 250 lbs. of zinc in a calendar quarter, should apply quarterly to the nearest WPB field office on Form WPB-541 for a preference rating to purchase zinc sheet, WPB said. This latter application should be accompanied by a statement of the applicant's use of zinc sheet during the corresponding quarter of 1941.

Order M-11-b does not apply to the use of zinc sheet for printing plates, and Form WPB-2893 may not be used to apply for a preference rating for zinc sheets for making printing plates. No zinc or zinc alloy for printing-plates is exempt from the use restrictions or the inventory provisions of Order M-339, Mr. Dutton pointed out.



Repeat Casts!

You'll get plenty of casts from Burgess Chrome Mats. They are made to stand up and deliver. The last cast is as sharp as the first. You'll be able to get more casts too. Switch to Burgess . . . and watch the difference.

A Laboratory Product
BURGESS Chrome MATS

THIS ADVERTISEMENT PRINTED FROM PLATE MADE FROM A BURGESS TONE-TEX MAT

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
FREEPORT • ILLINOIS
Pacific Coast Representative
RALPH LEBER CO 426 Polson Bldg. SEATTLE, WASH.

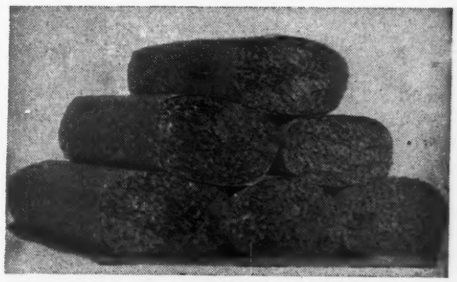
L-340 Issued to Govern Governmental Commercial Printing and Duplicating

FEDERAL, State, county, municipal and local governments are restricted (since July 1) in the amount of paper they may use for printing, the War Production Board's Printing and Publishing Division announced on July 18. The issuance of a new Limitation Order L-340 limits the usage of paper of all government units (other than the United States Government) using more than a ton of paper per annum or purchasing more than $1000 worth of printing a year to 75% of their base tonnages.

WE KNOW THERE IS A WAR ON

Yes, we know there is a war on and it has made our job here at Eastern doubly hard. Yet at the same time it is surprising how well we can service your requirements for newspaper supplies. Try us.

"FLECTO" Gummed Backing Felt



"FLECTO" Gummed Backing Felt is packed in individual containers of 5 sheets each, for convenience in handling.

"FLECTO" gummed backing felt is a product of modern chemical research. It is of finest quality, both in the felt and adhesive, and is sold on a money-back guarantee.

HERE ARE "FLECTO" FACTS!

It will stick fast, on any mat, regardless of heat used in scorching. Its adhesive will not crack, peel, slip or crystallize.

It tears easily and cleanly, without ragged ends.

Its gauge is uniform throughout and all "Flecto" is gauged accurately.

"FLECTO" felt is well bonded throughout and will not peel or separate in layers.

It is soft and pliable, assuring conformity to the mat and easy shrinking with the mat. Hundreds of users say "THERE IS NO BETTER BACKING FELT MADE."

SPECIFICATIONS

ADHESIVES—The special adhesive applied to "Flecto" is scientifically formulated to hold fast on all types of dry mats. Climatic conditions will not affect it.

FELT — This felt is produced under rigid control so that it is uniformly soft and porous, to permit the quick and easy escape of steam.

GAUGES AND SIZES

Gauges .021, .025, .030 (Green) sheeted 18" x 24".

Gauge .035 (Red) sheeted 18" x 24".

Gauges .040, .045 (Green) sheeted 18" x 22".

Gauges .050, .060 (Gray) sheeted 18" x 22".

Cut into strips 9" or 18" long and 1/8" to 1" wide at no extra charge.

9603 Northern Blvd. **EASTERN NEWSPAPER SUPPLY** Corona, N. Y.

In this Order L-340 it is stated: "The term 'printer' is used . . . to include printers who operate printing machines and duplicators who operate duplicating machines . . . and applies to a government which operates its own printing plant as well as a government which purchases printing."

All departments and agencies of the United States Government itself will be controlled by a conservation order issued by the director of the Bureau of the Budget.

This action was taken by WPB in order to require the same amount of conservation in paper usage within the various government units as is now accomplished by commercial printers and publishers of books, magazines and newspapers, it was pointed out by officials of the Printing and Publishing Division. Its effect will be to reduce the annual consumption of paper by these agencies by 25% of the amount consumed in the 12-month period ended June 30, 1942, or the last fiscal year that ended prior to June 30, 1942. It affects all paper caused to be consumed in printing for them or for their use.

No provisions are set up in this order for the exact procedure to be employed by the several governmental subdivisions in accomplishing the desired saving of paper.

"What the 'L' "

THE second edition (revised June 1944) of *What the "L" the WPB Means by the Six "L" Orders Restricting Paper to the Printing Industry,* has been published by Graphic Arts Association, Inc., Washington 5, D. C. The booklet was prepared by Meiric K. Dutton, Assistant Director, Printing and Publishing Division of WPB.

The booklet consists of 30 pages, 6 in. by 9 in. In it Mr. Dutton covers the six paper orders—L-240, L-241, L-244, L-245, L-289 and L-294 affecting the printing and publishing industry. The three orders—L-177, Wallpaper, L-239, Folding and Setup Boxes and M-241-a, Converted Paper Products—are not discussed in the booklet except as they are directly mentioned in the six printing-paper orders.

We believe printers who have an opportunity of reading Mr. Dutton's explanation will appreciate the manner in which each order is explained—so far as possible in non-technical language.

The booklet contains a Foreword prepared by George P. Mallonee, Executive Secretary, Graphic Arts Association of Washington, D. C., Inc.

Urges Redoubling Paper Conservation Efforts

BECAUSE the present critical paper shortage shows no signs of abating and may become increasingly critical during the remainder of the year, the Conservation Division of the War Production Board has appealed to all State and local governments to redouble their efforts in paper conservation and salvage.

In copies of a letter sent to the Council of State Governments, the American Municipal Association and the United States Conference of Mayors, all in Washington, and to a number of State and municipal government heads, Howard Coonley, director of the Conservation Division, WPB, said that many State and local governments already have done an excellent job in lining up an organization to effect the desired results.

Attached to each letter was a summary entitled "Paper Conservation for State and Local Governments," which described briefly the program used by the District of Columbia government for conservation and salvage of paper.

"The Conservation Division would appreciate greatly your distributing this suggested program as widely as possible, since we feel that while many governments already have taken the desired steps toward paper conservation and salvage, there probably are some who would benefit by having a fairly specific plan laid before them," Mr. Coonley said in the letter.

Copies of the program entitled *Paper Conservation for State and Local Governments* may be obtained from the Conservation Division, War Production Board, Room 240, Temporary D Building, Washington 25, D. C.

Printers' Bindery Equipment Manufacturers Industry Advisory Committee

MEMBERS of the newly appointed Printers' Bindery Equipment Manufacturers Industry Advisory Committee of WPB met in Washington on

July 10 and discussed current industry problems with Printing and Publishing Division officials. The personnel of the committee is as follows:

J. C. Dabney, Harris-Seybold-Potter Co., Dayton, Ohio, B. S. Hanson, Challenge Machinery Co., Grand Haven, Mich.; G. A. Heintzemann, Dexter Folder Co., Pearl River, N. Y.; W. O. Hickok, W. O. Hickok Mfg. Co., Harrisburg, Pa.; M. S. Little, The Smyth Mfg. Company, Hartford, Conn.; H. C. Nygren, Nygren-Dahly Co., Chicago; H. F. Rosback, F. P. Rosback Co., Benton Harbor, Mich.; F. S. Tipson, T. W. & C. B. Sheridan Co., New York, N. Y., and F. S. Windolph, Chambers Bros. Inc., Philadelphia.

David Fell, of the WPB Printing and Publishing Division, was the Government presiding officer.

Certain Restrictions in L-241 Revised

CERTAIN restrictions as to the weight of paper used for transportation tickets are removed, and requirements for printing admission tickets are modified under an amendment to the Commercial Printing and Duplicating Order L-241, issued on July 18 by the War Production Board. The restriction applying to publishers of sheet music is also removed. Restrictions affecting governmental commercial printing are likewise eliminated from the order, since that type of printing is now covered by the new limitation Order L-340, also issued July 18.

While heavier weight coated papers may be used for printing both transportation and admission tickets, no more fibre consumption is involved, officials said. Under the new limitation, maximum basis weight is (22½ by 28½) 90 lb., or any coated stock made from raw stock not over that weight.

Another amendment provides that a commercial printer is not limited in the amount of paper that he uses for printing required by certain governmental agencies.

A separate certificate from the purchaser of such unrestricted commercial printing must accompany each such order, stating that the purchaser is familiar with the requirements of L-241, and that his purchase is for printing unrestricted under the order.

Eliminates 30 Lb. Newsprint

RECOMMENDATIONS by a special sub-committee that the Printing and Publishing Division of the War Production Board eliminate the use of experimental 30-lb. newsprint by all United States newspaper publishers were unanimously adopted in July by the Newspaper Publishers Industry Advisory Committee.

It was recommended that irrespective of any reduction that publishers who order 30-lb. paper might be required to accept under Order L-240, any 30-lb. newsprint in a publisher's inventory be consumed on the same basis as 32-lb.

A report on the over-all newsprint situation estimated that the total newsprint supply for U.S. consumption in the last half of 1944 is approximately 273,000 T. per month. Barring a failure in pulpwood deliveries from Canada, available supplies in the third and fourth quarters should amount to 1,638,000 T., WPB officials said. Third-quarter usage was reported as 655,536 T. Consumption in the fourth quarter will be 781,166 T., it was estimated.

Allowing 15,000 T. for appeals in the last half of the year, and reserving 176,000 T. for all other uses, total consumption in the last half of 1944 will be 1,627,702, it was estimated. This would leave a balance of 10,298 T., but it was estimated that inventory adjustments might require about 19,000 T., which would indicate an over-all shortage of 8,702 T., based on presently known requirements.

About 75 publishers ordered newsprint from Canada in excess of their July quotas, according to Mr. Treanor. He said that this excess totaled 9,000 tons. WPB officials have written these publishers and advised them to stay within their quotas.

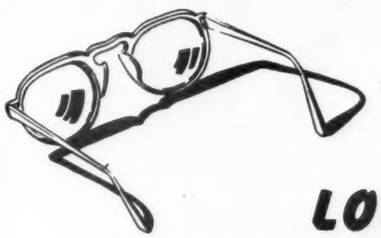
Toner Permitted in News Inks for Supplements

TO remove inequality in the restrictions on the use of printing ink embodied in Order M-53, WPB amended the order by revising the definition of news ink to permit the use of toners in ink for producing newspaper magazine supplements.

News Publicity Advertising
will be Printed Faster with the New MONOMELT
Copy gets into type fast when your machine casters are equipped with new Monomelt systems for melting and feeding type metal. Every job is completed sooner and you get clean, sharp slugs every cast.
If it's news, Monomelt's automatic feeding of type metal at lower temperatures allows faster casting, continuous operation. Every operator can handle more "takes", turn out cleaner work, and meet urgent deadlines. Proof-reading is easier.
If it's publicity folders, bulletins or special work, Monomelt's rapid, efficient operation gets jobs delivered to customers promptly. Good sound slugs stand up better in forms, require less makeover, hold up well under long, heavy runs.
If it's advertising, the "repro" proofs you pull from Monomelt-cast type will be clean and crisp; no hollow or chilled slugs with low letters or breaks. Gives utmost efficiency in type casting in any composing room.
Available Now for Linotype, Monotype, Ludlow, Elrod, Intertype and Linograph casters.
Equipment for NEW PLASTIC MOLDS FOR ELECTROTYPES! Read announcement next month.
MONOMELT COMPANY
1611 Polk Street, N. E.
Minneapolis 13, Minn.

BUY PRESS BLANKETS BY REPUTATION

For 30 years VULCAN has been making fine Press Blankets. During this time performance records show that VULCAN blankets have given uniformly efficient service. Recognition of that fact has built a REPUTATION.



LOOK FOR THESE QUALITIES . . .

When you purchase press blankets, look for these essential qualities: pliability . . . resilience . . . freedom from bolstering . . . absence of surface indentations . . . uniformity of thickness . . . an ink repellent surface . . . lack of stretch . . . resistance to surface abrasion. You'll find them in Vulcan Press Blankets in wartime as well as in peace. Vulcans combine to a high degree the properties demanded by superintendents of efficient, smooth-running pressrooms.

Blanket research by Vulcan technicians has been uninterrupted and is being maintained today with the single aim of improving product quality.

V

VULCAN

PROOFING COMPANY

FIRST AVENUE AND FIFTY-EIGHTH STREET

BROOKLYN 20, NEW YORK

5982 R

INSEPARABLE

Johnson Inks and high quality . . . the two are inseparable. Wherever printing ink is used, the name Johnson at once suggests the product that for 140 years has assured excellent reproduction.

CHARLES ENEU Johnson AND COMPANY

GOOD INKS SINCE 1804

Philadelphia • New York • Chicago • Boston • St. Louis • Cleveland
Detroit • Baltimore • Kansas City • Pittsburgh • Atlanta • Dallas

Men who make POLICIES EFFECTIVE

★ It is not always the function of the mechanical executive to form policies — but rather to make policies effective which have been jointly agreed upon. . . . Take the important matter of shrinkage. If the management decides that a certain saving is desirable, the mechanical heads want to know how to get desired results with minimum sacrifice of other objects. . . . Often a discussion with a Certified field man (backed by an unsurpassed laboratory and well equipped mill) is the crucial step toward satisfaction.

For dependable stereotyping, rely on Certified Mats

CERTIFIED DRY MAT CORPORATION

9 Rockefeller Plaza
Dept. M, New York 20, N. Y.

Certified DRY MATS

A. P. S. GUMMED PACKING
CORK BLANKETS
CREEPERS
POURING SHEETS
ROUTER BITS
TAILBOARDS

ALWAYS BEST AT

AMERICAN PUBLISHERS SUPPLY
17 Stewart Street Lynn, Mass.

The plant that standardizes on the

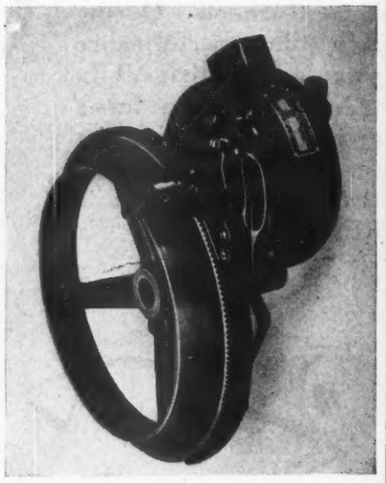
CUSHMAN (OFFSET) MOTOR

stays out of trouble!

★

Parts Catalog and Instruction Book now available

★



Cushman Motor Division

LINOTYPE PARTS COMPANY
WEATHERLY, PENNA.

GET SOLID BLACKS, SHARP HALFTONES

with.....

Uniform coverage of solid areas . . . clean, decisive readability . . . free flowing . . . that's what you get with Herrick Inks. Black areas print deep and solid . . . halftones, sharp and clear. Let a Herrick representative help you get an ink "handtailored" to match your needs . . . always of the same consistency, saving press adjustments.

HERRICK *Inks*

WM. C. HERRICK INK CO., INC.
Main Office & Plant • East Rutherford, N. J.

Less than one per cent of total news ink produced will be affected by the change, officials said, while the distribution of toners will remain within the quota limits of M-103, as both oil-soluble toners and other organic toners are Class D dyestuffs under that order.

PLASTIC DUPLICATE PLATES

(Continued from Page 20)

rated from the phenolic thermosetting matrix.

(5) The thermosetting matrix which has just been molded and hardened, is now prepared for molding the printing plate itself. White Vinylite powder is placed over the face of the matrix and is leveled. An additional layer of powder is now placed on the matrix in the form of two opposed arcs which extend from the corners toward the center and back to the corners again. This method of loading the plate gives highly uniform results and eliminates porosity in the corners of the plate.

A black sheet, 1/16 in. thick, is now placed over the powder. Although black, this sheet has the same physical characteristics as the white powder placed on the matrix. Under heat and pressure, the two materials join completely and become as one piece. There is no danger of delamination.

In the case of thin plates, only one sheet of base material is necessary. For 11 pt. plates, several sheets may be used. As has been mentioned previously, there is no danger of separation after molding, because they fuse together completely.

(6) The assembly is now placed on the apron of the press. An insulating panel consisting of a sheet of molded phenolic material 1/8 in. thick is placed over the assembly. This insulating panel controls the penetration of heat into the back of the plate assembly to insure flat printing plates free from deformation. After a suitable period of time during which the

OHIO KNIVES

OK BLACK ARROW *Trimmer Knives*

A special heat treatment of the steel assures you of extra long life between grinds and a tough edge for all kinds of cutting.

OHIO KNIFE CO. • CINCINNATI 23, OHIO

You Can Do a Better Job with CHALLENGE IRON FURNITURE
. . . and faster with less make-up time lost and lower spoilage and labor cost.

● **LABOR-SAVING IRON FURNITURE** with the Velvet Edges. Light and cross braced. Raised figures on both sides to show pica size. Wide range of standard sizes from 2x4 to 10x70 ems pica.

● **MAMMOTH IRON FURNITURE** saves time in filling large spaces. Seventy sizes ranging from 15x15 to 60x120 picas.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

WRITE for complete list of sorts and special fonts. Economically priced. 488

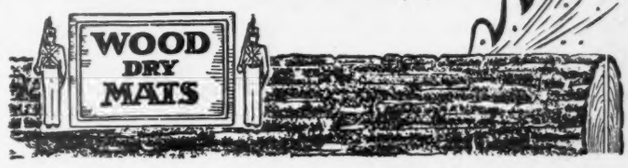
THE CHALLENGE MACHINERY CO.

Main Office and Factory: GRAND HAVEN, MICH. 1893 50th ANNIVERSARY 1943 Eastern Sales Office: 50 Church St., NEW YORK

RIGHT FROM THE WOOD

REPRODUCTIONS of engravings and type must be perfectly balanced to maintain the graphic perfection that spells reader interest and advertising effectiveness. This objective has been achieved for many newspapers by Wood Mats, tailor-made to meet individual specifications, and enhanced by the close personal service of Wood Flong field representatives.

WOOD FLONG CORPORATION
HOOSICK FALLS, NEW YORK
New York City Office: 551 Fifth Avenue



pressure and heat fuse the powder and the base sheet into a printing plate, the press is opened.

(7) The assembly, as it comes from the molding press, is now placed in the chilling press under slight pressure. This chilling operation hardens the plastic plate which still is in a plastic state when removed from the molding press.

(8) The printing plate is removed from the matrix by inserting a sharp tool between the edges of the matrix and the plate.

(9) The plate may now be trimmed, routed, shaved and beveled in a manner similar to metal plates.

Makeready for Plastic Plates

In answer to the question: "What about makeready for plastic plates?" Mr. Williamson replied: "Based on the reaction of people who have tried these plates, there is no more or less makeready time required than for metal plates. Just as with metal plates, it is possible to get a large amount of premakeready into the plastic plate before it goes to the pressroom.

With respect to plates wearing because of the abrasive action of certain pigments, Mr. Williamson stated that abrasive pigments wear a plate down faster than inks containing soft pigments. This wearing action also holds true in the case of metal plates. The solvents commonly used in printing inks have no effect on plastic plates.

Washing the Plates

The speaker stated he had gotten into trouble on several occasions where extremely strong solvents or washes containing benzol and acetone have been used. Their use should be avoided. He added that kerosene, gasoline, naphtha and other petroleum solvents can be used to wash these plates without injury to the plate.

Plates do not deteriorate in storage. Mr. Williamson, however, cautioned against storing plates in unusually warm places, since the thermoplastic plates soften at elevated temperatures. The compound for the face of plastic printing plates has a softening point higher than 150 deg. F.

To Improve the Low Spaces

In speaking of present limitations of the plate-making technique, Mr. Williamson stated that at the moment low-spaced forms give some trouble, but added that his company is working on an improved matrix sheet to overcome the problem. The present matrix material has an extremely strong and tough surface at points where it is compressed, but in low-spaced forms the full face of the matrix sheet does not come into contact with the form, some of the non-printing improved matrix sheet to overcome the areas remaining unpressed tend to distort under the pressure of plate molding.

The speaker explained that Bakelite Corporation manufactures plastic materials which are furnished to the industry to be processed into finished articles. The company does not make printing plates. The materials for making the plates are supplied to the trade with the technical information and instructions necessary for their use. Neither does his company furnish the molding equipment required for the production of plastic plates.

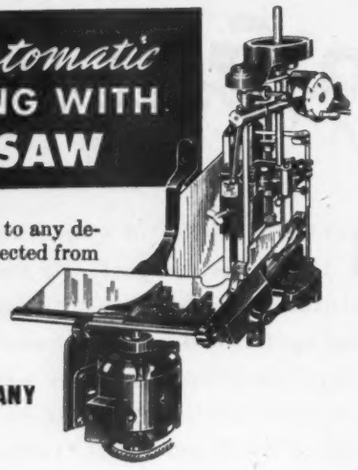
Mr. Williamson exhibited flat and curved plates to the audience for inspection and explained how easily they can be curved for rotary presses. He also said that as many as 400 plastic duplicates can be made from one original.

Co-Chairman Gradie Oakes interposed with the remark that the plates are so inexpensive that new ones can be made as easily as trying to repair old ones. In answer to another question, Mr. Williamson said that any printer can install his own plastic platemaking equipment if he can get it, and thus save time in making plates.

Spherekote Tympan

ANOTHER new product mentioned in the same clinic was a tympan paper manufactured and marketed by the Minnesota Mining and Manufacturing Company. R. M. Malone, of Chicago, told the audience that the distinctive feature of the new tympan paper was that 50,000 glass globules are imbedded on each square inch of the paper which made it easy for pressmen to keep the paper clean. He said printing production was improved by the use of the new product on any type of press.

100% Automatic
SLUG SAWING WITH
MOHR SAW



The Mohr Saw cuts slugs to any desired length as they are ejected from the linecasting machine. 100% automatic operation. Accurate and speedy. Saves time and money.

MOHR LINO-SAW COMPANY
126 N. Union Avenue
Chicago 6, Illinois

TINGUE
TRADE MARK
PRINTING PRESS
BLANKETS
TINGUE, BROWN & CO.
114-120 EAST 23rd ST. NEW YORK 10, N. Y.
1227 WABASH AVENUE, CHICAGO 5, ILLINOIS
723 E. WASHINGTON BLVD. LOS ANGELES 21, CAL.
507 PETERS STREET, S. W. ATLANTA, GEORGIA
ROSS WHITEHEAD & CO. LTD.

Talks Straight From Shoulder

WALTER SODERSTROM, secretary of the Eastern Lithographers Association, with headquarters in New York, N. Y., in his talk at the clinic on offset platemaking and printing, on *Looking Ahead in the Lithographic Industry*, directed most of his remarks toward the "front" office, rather than to production managers.

As he viewed the prospects he envisioned an influx of 10,000 soldiers and sailors into the lithographic business following the close of the war. The basis for his prediction was two-fold: one, that about 25,000 or more of them had received and are receiving some training in doing lithographic work in making maps, and the other is the amount of money which they will receive from Government at the time of their forthcoming discharge from the service. With their experience—though only partial—and the need for getting into income producing activity, Mr. Soderstrom suggested that they will probably regard as good business the production of lithography.

The speaker indicated that not much could be done about preventing it, but he warned the men now in the business that they must expect that kind of competition in the postwar period. He also indicated that many of the men now in letterpress operations might want to install lithographic equipment after the war. Thus as he looked forward to postwar developments, he foresaw the field of black and white offset work, overcrowded, but that the specialty business for which the large lithographic houses are equipped, will not be adversely affected because the large amount of capital required to handle the specialty lines is too great for newcomers to supply.

Mr. Soderstrom predicted that salesmen who know the offset-lith field would be in great demand after the United States Government cancels its war orders which are now filling many litho plants. The subsequent scramble for civilian business will then mean higher salaries for capable men in the selling end of the industry.

Mr. Soderstrom offered some advice to letterpress printers who might be contemplating going into the offset business. He warned that when buying used or rebuilt equipment, it should be purchased from responsible dealers or manufacturers. He also warned them about thinking that they could use letterpress printers and transform them in short order to offset equipment operatives. He advised the employment of experienced help which is scarce now but will probably increase during the postwar period, when many men now partially trained in lithographic service in the armed forces will have been released and will become available to employers.

Offset-Lith Pressroom Technique

JOSEPH MACHELL, superintendent of the Stecher-Traung Lithograph Corporation, Rochester, N. Y., gave an address on *Improving Offset Quality* in which he stressed the value of cleanliness as a factor in attaining and maintaining a high standard of quality in producing fine lithography. He ridiculed the idea of trying to patch up moisteners on expensive lithographic presses and probably spoiling work, when new ones cost but $4 or $5 each.

He advised cleaning out regularly the ink and water fountains, keeping blades sharp, and suggested adding rollers to litho presses to improve distribution. He positively declared it as his opinion that no press on the market has sufficient roller equipment to insure better distribution. In answer to a question, he said he has expressed his views to press manufacturers.

He criticized pressmen who fill fountains to overflowing with inks. He said

ipi
pocket size
COLOR
GUIDES

They're easy to carry! Write today for free *pocket size* editions of IPI Letterpress Color Guide, IPI Offset Color Guide, IPI Everyday Specimen Book. Address nearest branch or International Printing Ink, Empire State Building, 350 Fifth Avenue, New York 1, N. Y.

FOR SAFETY FROM FIRES
JUSTRITE
SAFETY PRODUCTS

Eliminate the hazards of flammable materials that cause ruinous fires around print shops. Use Justrite Safety Products. They provide the safe, sane means of handling volatile liquids and oily waste. Invest in Justrite today . . . for a safe shop always.

Oily Waste Can with foot lever. Sizes 6 to 14 gal.

JUSTRITE MANUFACTURING COMPANY
2063 N. Southport Avenue, Dept. J-2, Chicago, Illinois

SAFETY·RELIABILITY·ECONOMY
CLINE
PRESS DRIVES
and
CONTROL
Reels, Tensions
and Pasters...
CLINE SYSTEM
CLINE ELEC. MFG. CO.
Chicago: 211 West Wacker Drive
New York: 220 East 42nd Street
San Francisco: 1st Nat'l Bank Bldg

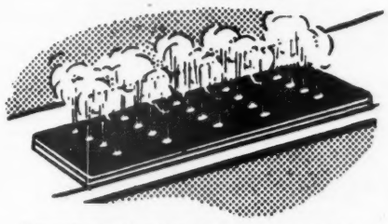
$325 GET THE FACTS!
ON THE
NEW Rouse BAND SAW
H. B. ROUSE & COMPANY
2216 N. WAYNE AVE., CHICAGO, ILL.

SAVE YOUR MANPOWER
BUY NEW "BULLDOG" CLAMPS
Save Their Hands
New Model
J. A. Richards
The Saw-Maker
Kalamazoo
ANTI-FANNING
13F
Mich.

PREPRINT
To PREPRINT means to check and to correct plate and form faults and errors when it can be done most economically and efficiently.
It will cut down your makeready time, increase the impression output of your presses, and add to your profits. Write for circular.
VANDERCOOK
PROOF PRESSES · BLOCK LEVELLERS · HACKER GAUGES
VANDERCOOK & SONS, 900 N. Kilpatrick Ave., Chicago 51, Ill.

CAMERAS — Equipment available WPB order. Full information on request. United Camera Exchange. 78-P Chambers Street, New York 7.

STEREOTYPE PERFORATED GUMMED PACKING FELT
Important where considerable shrinkage is employed



Manufactured under Patent No. 1,967,444
Is More Flexible • Forms with the Mat • Dries Faster • Sets Instantly
Send for a Trial Order Today — Sheets or Cut Strips
American Publishers Supply
P. O. Box 924 Lynn, Mass.

Ludlow
composition is truly profitable composition.
Ludlow Typograph Co.
2032 Clybourn Avenue • Chicago, Ill.

the inks will deteriorate if exposed to the air and advised that only enough ink be placed in fountains to last for only several hours run on the press.

Contact Screen

Alexander Claire, of the Graphic Arts Division of the Eastman Kodak Company, discussed the contact screen process and showed various kinds of transparencies and screens to describe the process of color separation in photography and platemaking for the lithographic process.

Paper Situation

THE paper situation, as officials of the printing and publishing division of the War Production Board view it, was described at the opening session of the convention by Robert D. Ross, of Washington, D. C., deputy director of the division. He said that the outlook for the fourth quarter was not so good, because the needs for paper products for the armed forces had increased tremendously since the invasion of France. More and more of the available pulpwood was thus flowing toward military uses, which left less for civilian purposes, so he said. Mr. Ross declared that the division of which he was a representative was doing its utmost to provide for fair distribution of pulpwood for commercial printing purposes, and that they needed the active support of all the elements in the industry. One thing he stressed was the need in every printing establishment, of accurate basic records of tonnage of paper used in 1941. This is necessary, he said, in order to govern the application of the limitation requirements of the Government.

Arthur W. Brooks, consultant, in the printing and publishing division of the WPB, referred to the advantages of the 1000-sheet count and the use of the decimal system in handling paper, and advised the Craftsmen to support the general adoption of the decimal, uniform standard system. He reported that the Government Printing Office is using the 1000-sheet count as standard practice, and that the U. S. Bureau of Standards approved it. He said: "25 x 40 represents 1000 sq. in.—let's talk about 1000 sq. in." During the business session of the International Association on Wednesday afternoon, a resolution favoring the general adoption of the decimal system for paper specifications was approved unanimously by the convention.

Delayed Conservation

"DURING the cub days, a Cleveland printing salesman was associated with a commercial printing plant that turned out one particular job annually for which several tons of paper were required. After the job had been produced every year for four years, the salesman had a thought. He suggested that since the job was 6 in. by 9 in. trim size, with no bleed pages, and the stock used was 38 in. by 50 in., why not use 37 in. by 49 in. paper and save $140 on the job.

"The employer stood aghast and exclaimed: 'Why the hell didn't you think of that four years ago'?"

—From address delivered by Edward T. Samuel, Superintendent, A. S. Gilman, Inc., Cleveland, before Niagara Falls (Ont.) International Craftsmen's convention, July 1944.

Manpower and Personnel Clinic

TRAINING of apprentices and providing for the retraining of journeymen printers and pressmen was discussed at length at the *Manpower and Personnel Clinic*, Tuesday evening. Douglas C. McMurtrie introduced Chairman Charles R. Conquergood, Toronto. The principal address was given by William H. Friedman, president of the Carey Press Corporation of New York, who is also chairman of the Graphic Arts Educational Commission of the City of New York. During his discourse, he announced that the City of New York, through its board of education, was planning to construct a Graphic Arts educational building to cost $5,500,000.

Courses of study and opportunities for practical work will be enlarged for pre-apprenticeship training, for apprentices, journeymen and for personnel associated with the management of printing plants.

Mr. Friedman said that the plans are the product of the joint efforts of employers, labor unions and the board of education, and will be carried to completion by the Graphic Arts Educational Commission of which he is chairman. In making plans for the enlargement of the Graphic Arts educational program, Mr. Friedman said that programs in force or contemplated all over the world were considered, and that the announced plans are subject to improvement. As he expressed his views, he said he considered that an adequate Graphic Arts educational program for the postwar period should include the following items:

1. A three year vocational high school course after junior pre-apprenticeship training.
2. A two year junior technical institute for advanced pre-apprenticeship training.
3. A four to six year school for apprenticeship training.
4. A school for journeymen training and retraining.
5. A college and technical institute for training potential leaders.
6. Post-graduate school for management and upgrading training.

Others who participated in the discussion of the manpower and training of apprentices and the rehabilitation programs of men, now in the armed forces, included George A. Clark, and Charles R. Conquergood, of Toronto, who are working out plans for a program of rehabilitation and training in the Graphic Arts in Ontario, Canada; John Rivoire, of Ottawa, who described briefly the operations of the new School of Graphic Arts in Montreal, Canada, and others.

Closing Session

AT the final convention session held in the Grand ballroom of the General Brock Hotel, Wednesday evening, Oliver Watson, of Toronto, a past international president, installed the newly elected officers.

Mr. and Mrs. Charles R. Conquergood, who headed local committees on arrangements, and Mr. and Mrs. Edward Patton, assistants, also of Toronto, were honored by the presentation to each couple of a big bouquet of flowers. Past-President Perry R. Long, of Hearst Magazine Press, New York, gave a talk in connection with the presentation of the flowers to the Conquergoods, and Past President O'Connor, or Montreal, gave the presentation speech in the ceremony attending the gift to the Pattons.

Following the announcement of appointees for the ensuing year by Walter F. Schultz, newly elected president, the retiring president, Harvey Glover, was presented with a gold past president's jewel, the gift of the International Association. Past President Fred J. Hagen of Chicago, made the presentation address.

It was announced that no city had invited the International Association to hold its convention in 1945, whereupon the board of governors was authorized to take such action, in due time, which it would deem wise in view of conditions prevailing next year. It was announced at the final session of the convention that credit for the suggestion to hold the 1944 convention at Niagara Falls was due to Past President Watson. He had written a letter to President Glover early in the year that in the event no city invited the International, that the board of governors should assume entire responsibility and hold convention sessions at Niagara Falls.

Advertisers' Alphabetical Index — August 1944

American Publishers Supply 44-47
American Type Founders 1
Atlantic Zinc Works, The 35
Booth, The E. A. Rubber Co 39
Burgess Cellulose Co 40
Certified Dry Mat Corp 43
Challenge Machinery Co 45
Cline Electric Mfg. Co 47
Duplex Printing Press Co., The 6
Eastern Newspaper Supply 41
General Electric Co 31
Goodyear Tire & Rubber Co 3
Hammond Machinery Builders, Inc 2
Harris-Seybold-Potter Co ..... Inside Front Cover
Herrick, Wm. C., Ink Co 44
Hoe, R., & Co 33
Huber, J. M., Inc 4
Imperial Type Metal Co 37
International Printing Ink Corp 46
Intertype Corporation ..... Outside Back Cover
Johnson, Charles Eneu, and Co 43
Justrite Mfg. Co 46
Linotype Parts Co 39-44
Ludlow Typograph Co 47
Mergenthaler Linotype Co 29
Miller Printing Machinery Co 7
Milwaukee Saw-Trimmer Corp 38
Mohr Lino-Saw Co 46
Monomelt Co 42
Morley Co., The 37
Ohio Knife Co 44
Richards, J. A., Co 47
Rouse, H. B., & Co 47
Tingue, Brown & Co 46
U. S. Treasury Dept ..... Inside Back Cover
Vandercook & Sons 47
Vulcan Proofing Co 43
Wood Flong Corp 45
Wood Newspaper Machinery Corp 8

Just in case you've eased up... ON YOUR PAY ROLL PLAN

Pause one brief moment. Compare your lot—and that of the men and women in your employ—with the lot of the infantrymen who meet the enemy face to face, who do the hardest fighting, who suffer the most casualties.

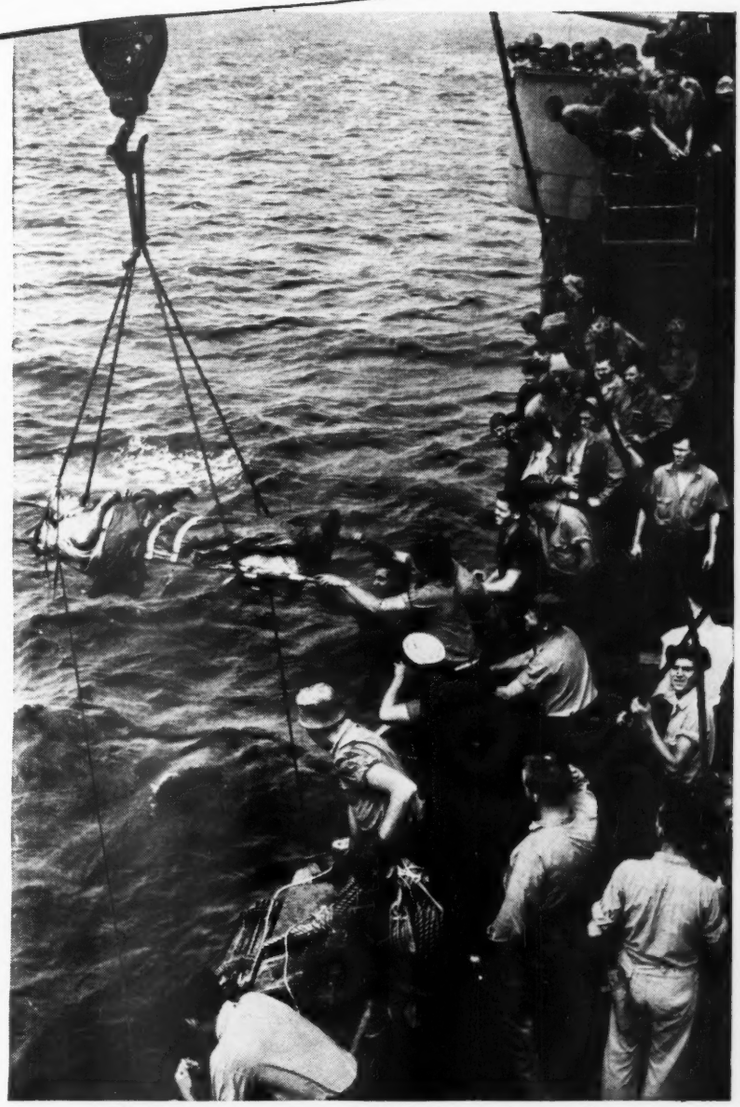
Let the full impact of war's unending grimness swiftly convert any tendency toward complacency into revitalized urgency. Remember—the war is not yet won.

As top management and labor, you've been entrusted with two major responsibilities—steadily maintained production, and steadily maintained War Bond Sales *through your Pay Roll Savings Plan.*

Decide *now* to revitalize your plant's Pay Roll Plan. Have your Bond Committee recheck all employee lists for percentages of participation and individual deductions. Have Team Captains personally contact each old *and new* employee. Raise all percentage figures wherever possible.

Don't underestimate the importance of this task. This marginal group represents *a potential sales increase of 25% to 30% on all Pay Roll Plans!*

Your success will be twofold: A new high in War Bond Sales; and a new high in production. Because a worker with a systematic savings plan has his mind on his work—not on post-war financial worries. He's taking care of the future now. His own. And his Country's future. *Help him!* REVITALIZE YOUR WAR BOND PAY ROLL SAVINGS PLAN.



Official U. S. Coast Guard Photo: The elevator to a Coast Guard-operated transport hospital

Back the Attack!

SELL MORE THAN BEFORE!

The Treasury Department acknowledges with appreciation the publication of this message by

PRINTING EQUIPMENT ENGINEER

This is an official U. S. Treasury advertisement — prepared under the auspices of Treasury Department and War Advertising Council

SENTRY DUTY

IN AMERICA every editor is on sentry duty, guarding constantly against all encroachments on the Freedom of the Press. *It has always been like this.* * Ever since the press battled for and won freedom of expression, its guardians have had to be on the constant lookout for infiltration by the enemies of that freedom. Infiltration—pressure from powerful groups to tone down comment on a situation...pulling of strings to keep a story from being published...predigested propaganda releases.

* But the press knows the importance of never giving up its freedom. For on *freedom of the press* depend all other freedoms that make up democracy. Therefore, the men of America's press refuse to recognize any check—except military security—on complete, unabridged and inviolate freedom to print the truth.

* * *

That is the challenge of today to the COURAGE *and the* VIGILANCE *of these sentries of America's press.*

TEXT SET IN WAVERLEY

INTERTYPE

Twenty-fifth in a series of messages on Freedom of the Press by INTERTYPE, *Brooklyn*